DRAFT

PREPARING YOUR DRINKING WATER ANNUAL WATER QUALITY REPORT

GUIDANCE FOR WATER SUPPLIERS

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NOTICE

This document was written to provide implementation guidance to water suppliers on the New York State Department of Health's implementation Part 5-1.72(e)-(h) of the State Sanitary Code. The guidance is designed to implement State policy on these issues. The document does not, however, substitute for Part 5-1.72 of the State Sanitary Code; nor is it a regulation itself. Thus, it cannot impose legally binding requirements on the New York State Department of Health or water suppliers, and may not apply to a particular situation based on the circumstances. The New York State Department of Health retains the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate. The New York State Department of Health may change this guidance in the future.

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1.0 INTRODUCTION

This document is for water suppliers who are preparing their Annual Water Quality Report as prescribed by Part 5-1.72 of the New York State Sanitary Code (10 NYCRR). This guide explains all of the requirements for report content, format, and distribution.

The rationale for Annual Water Quality Reports is that consumers have the right to know what is in their drinking water. The information contained in an Annual Water Quality Report can raise consumers' awareness regarding the source of their drinking water, help consumers to understand the process by which safe drinking water is delivered to their homes, and educate consumers about the importance of preventative measures, such as source protection, that ensure a safe drinking water supply. Annual Water Quality Reports can also promote a dialogue between consumers and their drinking water utilities, and can encourage consumers to become more involved in decisions which may affect their health. The information in the reports can be used by consumers, especially those with special health needs, to make informed decisions regarding their drinking water. These reports will encourage consumers to consider the challenges of providing safe drinking water. Educated consumers are more likely to help protect their drinking water sources and to appreciate the true costs of safe drinking water.

2.0 WHAT IS AN ANNUAL WATER QUALITY REPORT?

Since 1996, Section 1150 of New York State's Public Health Law has required community water systems, serving 1,000 or more service connections, to prepare and provide Annual Water Quality Reports to their customers. Many systems on Long Island have been required to prepare these reports since 1988.

In 1996, Congress amended the Safe Drinking Water Act and added a provision requiring every community water system that serves 15 or more service connections used by year-round residents or regularly serves at least 25 year-round residents (water system is not shut-down during the year) to deliver to their customers an Annual Water Quality Report. Although the intent of both the State regulation and the federal rule were similar, there were differences between the two types of Annual Water Quality Reports. In summary, the differences included: who is required to produce the reports (systems serving 1,000 or more service connections vs. systems serving 15 or more service connections); report distribution methods (mailed or placed in newspaper vs. required mailings), and report content.

In 2001, the New York State Department of Health (DOH) amended Part 5-1.72 of the State Sanitary Code to adopt the Annual Water Quality Report requirements prescribed by the federal government. Part 5-1.72 was amended to clarify (and add to) the Annual Water Quality Report requirements for systems serving 1,000 or more service connections and establish Annual Water Quality Report requirements for systems serving fewer than 1,000 service connections.

These regulatory revisions result in an Annual Water Quality Report prepared by systems serving fewer than 1,000 service connections which includes information on the water source and water treatment, the levels of any detected contaminants, and compliance with drinking water rules, plus general educational information. The regulatory revisions require systems serving 1,000 or more service connections to prepare a report that includes the aforementioned items as well as information on non-detected contaminants, water use, water source restrictions, water conservation measures, and the cost of water.

3.0 WHO MUST PREPARE AN ANNUAL WATER QUALITY REPORT?

Every community water system that serves 15 or more service connections used by year-round residents or regularly serves at least 25 year-round residents must prepare and distribute an Annual Water Quality Report. These systems typically include cities, towns, homeowners associations, apartments, and mobile home parks.

A water wholesaler that sells water to another water system must provide the retailer with monitoring data and other information that will enable the

retailer to produce an Annual Water Quality Report, unless the two systems make a different contractual arrangement. Wholesalers are not responsible for creating the report for the retailer, nor are they responsible for providing data on contaminants that the retailer monitors (such as lead or total trihalomethanes). Regardless of who produces the report, the retail system is responsible for ensuring that its customers receive a report meeting all of the requirements.

In some cases, a retailer will contract with the wholesaler to produce the report. There are several options in this relationship. If the retailer had no new data to add, it could simply send out the wholesaler's Annual Water Quality Report with a cover letter explaining their relationship. If the retailer does need to add data, it might choose to reprint the wholesaler's Annual Water Quality Report with a new title/letterhead and the extra data. Either of these options is acceptable.

4.0 WHAT IS REQUIRED IN AN ANNUAL WATER QUALITY REPORT?

This guidance describes New York State's requirements for an Annual Water Quality Report and suggests other sections or explanations that will help your customers understand the report. A summary of the basic Annual Water Quality Report requirements is presented below.

Annual Water Quality Report Requirements
(*please read on for details and recommended enhancements)*

Systems serving 15 to 999 service connections serving at least 25 year-round residents

Water System Information

- Name, address, and public water system identification number.
- Name and telephone number of system's contact person.
- Telephone number of the county or district health department office that has jurisdiction over the system.
- Information about opportunities for public participation (e.g., time and place of regularly scheduled meetings).
- A statement explaining the number of people served by the system.
- Information for non-English speaking populations, if applicable.

Sources of Water and Water Treatment

- Type, name and location of water sources.
- Availability of a Source Water Assessment.
- Brief summary of the system's susceptibility to potential sources of contaminants using language provided by the DOH.
- A description of the type(s) of treatment that the water receives before entering the distribution system.

Definitions

- Each report must contain the definitions for Maximum Contaminant Level (MCL), Maximum Contaminant Level Goal (MCLG), Maximum Residual Disinfectant Level (MRDL), and Maximum Residual Disinfectant Level Goal (MRDLG).
- Definitions for Variances and Exemptions must be included if system is operating under a variance or exemption.
- A report that includes information on a contaminant that is regulated as a Treatment Technique (TT) or an Action Level (AL) must include the definitions for these terms.

Detected Contaminants

- A table summarizing data on detected contaminants presented in Table 1. The table must include the following:
  - State MCL, TT or AL expressed in a number equal to or greater than 1.0;
  - the MCLG for those contaminants expressed in the same units as the MCL;
  - the level detected for each contaminant;
  - the known or likely source of each contaminant;
  - a notation indicating if there was a MCL, TT or AL violation; and
  - the date the sample was collected.
- For MCL, TT and AL violations, the report must include Health Effects language (see Table 1) and an explanation of the violation.

Annual Water Quality Report Requirements
(*please read on for details and recommended enhancements)*

Information on Cryptosporidium, Giardia, Radon and Unregulated Contaminants

- If a system has performed monitoring which indicates that *Cryptosporidium* or *Giardia* were detected in the source or finished water the report must include a summary of the data.
- If a system has performed monitoring which indicates that radon was detected in finished water the report must include a summary of the data.
- If a system has performed monitoring which indicates that unregulated contaminants were detected in the source or finished water, the report must include a contact person and telephone number for information on the monitoring results.

Compliance with the State Sanitary Code

- Explanation of violations, potential health effects and steps taken to correct the violations.
- Explanation of variance/exemption, if applicable.

Educational Information

- Explanation of contaminants and their presence in drinking water.
- A statement explaining that the presence of contaminants in drinking water do not necessarily pose a health risk.
- A statement explaining that some individuals may be more vulnerable to disease causing microorganism and pathogens than the general population.
- Informational statements on arsenic, nitrate, lead, and fluoride, if necessary.

Systems serving 1,000 or more service connections

- Report must include each of the details specified above as well as the items listed below.
    - Systems that calculate water use of all customers with meters must include an accounting of the total annual amount of water withdrawn, delivered, and lost from the system.
    - A description of any water source(s) restricted, removed from service, or otherwise limited in its use and any new actions taken to secure new suppliers or replace lost capacity.
    - Water conservation measures available to customers.
    - A description of any major facility modifications and a discussion of capital improvements needed or planned.
    - For systems that bill their customers, the report shall include the average charge for water.
    - Information on non-detected contaminants.
    - The analytical results for samples collected directly from drinking water sources that are not used to determine compliance may be placed in a supplement to the Annual Water Quality Report.

The DOH encourages you to tailor the content of your Annual Water Quality Report to local conditions. If you think that an added picture or graph would help your customers to understand your report, feel free to include additional information. If your customers would benefit from an explanation of your need for new treatment facilities, include that information in your report. The State regulation allows you to include additional educational information in your report, as long as it does not detract from the purpose of your report.

Customers are most interested in a clear statement of whether or not their drinking water meets all state standards. Although it is not required by the State regulation, you will help your customers if you tell them whether their water has met all drinking water standards. Be cautious in using the word **"safe"** since water that meets standards and is safe for most people may not be safe in all cases for immuno-compromised individuals (e.g., people with HIV/ AIDs or chemotherapy patients).

Example for a system with no violations:
Last year, as in years past, your tap water met all State drinking water health standards. The Flanigan Water District is proud to report that our system has never violated a maximum contaminant level or any other water quality standard. This report is an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are pleased to provide you with this information because informed customers are our best customers.

Example for a system with violations:
Last year, we conducted tests for over 80 contaminants. We detected 5 of those contaminants, and found only 1 of those contaminants at a level

higher than the State allows. As we told you at the time, our water temporarily exceeded a drinking water standard and we modified our treatment processes to rectify the problem. This report is an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards. We are pleased to provide you with this information because informed customers are our best customers.

5.0 REPORT CONTENTS REQUIRED FOR ALL APPLICABLE CWSS

ITEM 1: WATER SYSTEM INFORMATION

Your report must identify your water system's name, address and public water system identification number (PWS ID#). Your PWS ID# is a unique seven digit number assigned to your water system by the DOH. If you are unsure of your PWS ID# contact your local health department representative.

An Annual Water Quality Report must also include:

- The name and telephone number of a person at the water system who can answer questions about the report.
- The telephone number of the county or district health department office that has jurisdiction over the water system. A complete telephone listing is included in Appendix A.
- A list of known opportunities for public participation in decisions that affect drinking water quality (e.g., time and place of regularly scheduled water board or city/county council meetings). If you do not have regularly scheduled meetings, inform customers how to obtain information regarding when the meetings are announced. If you are a small system (i.e., mobile home park, apartment complex, or subdivision) and you do not have meetings, we encourage you to tell customers that you would discuss any drinking water issues with them in person.
- A statement explaining the number of people served by the drinking water system.

Systems that have a large proportion of non-English speaking residents must include information in the appropriate language expressing the importance of the report. The DOH has determined that the decision to include information for non-English speaking residents should be made at the water-supplier level in consultation with the local health department, since you are the most familiar with your customers.

The required language for systems determined to have a large proportion of non-English speaking residents is as follows:

This report contains important information about your drinking water. Translate it, or speak with someone who understands it.

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

Korean

아래의 보고는 귀하께서 드시는 식수에 대한 중요한 정보가 포함되어 있습니다. 번역을 하시든지 아니면 이 보고를 읽고 이해하시는 분과 말씀하시기를 바랍니다.

French

Ce rapport contient des informations importantes sur votre eau potable. Traduisez-le ou parlez en avec quelqu'un qui le comprend bien.

Chinese

這份報告含有非常重要有關您喝的水的資料。請找懂得這份報告的人翻譯或解釋給您聽。

ITEM 2: SOURCE(S) OF WATER AND WATER TREATMENT

Describe the source of your water (groundwater, surface water, or a blend), and the commonly used name(s) (if such a name exists) and general locations of your water source(s). We encourage you to provide a simple map of your system's sources.

Explaining your various interconnections and back-up sources may be difficult, but it is important that consumers understand that the source of their water may vary during the year. Remember to include in your table of detected contaminants monitoring data for these "extra" sources if you use water from them. If your situation is complex, feel free to contact your local health department representative or the state drinking water program representative to determine what information belongs in your report.

Your report must include a brief summary of your source water's susceptibility to contamination based on the findings of the source water assessment, if such assessment is available. The summary must be included annually despite no updates or changes from the previous year's report. Your county or district health department office will provide this summary to you. Inform your customers that they can obtain a copy of the source water assessment by contacting their water system, county or district health department office, or State DOH.

This section should also include a description of the type(s) of treatment your water receives prior to distribution.

Source Description and Treatment Examples

Filtration

The drinking water source for the Village of Colvin is surface water drawn from Grady Brook located on Mount Stegmann. Water from Grady Brook flows into the reservoir located on Gregory Drive and Marcy Road. Water from the reservoir flows by gravity through a transmission line to a 500,000-gallon uncovered raw water storage reservoir. The water is pumped from the reservoir to the water treatment plant. After filtration, disinfection, pH adjustment and corrosion control treatment, the treated water enters the distribution system which includes a 500,000 gallon finished water covered reservoir.

Green Sand Filtration

The water system consists of a well located at the end of Graff Lane. The water is pumped from the well to the treatment plant where chlorine and potassium permanganate are added to enhance the iron removal processes as it passes through green sand filters. The water is disinfected again as it leaves the plant.

Disinfection

The water system consists of four drilled wells located on Crawford Road. The water is pumped from the wells into a 130,000-storage tank. The water is disinfected with sodium hypochlorite as it is transferred to the storage tank.

Disinfection Waiver

The water system consists of a drilled well with a submerged pump and a 20,000-gallon storage tank. A spring supply (old source) is available as an auxiliary source but was not used during this reporting period. The sources are located on of the Zeus Acres Mobile Home Park property. The drinking water source is operating under a disinfection waiver issued by the Health Department. Therefore, no treatment is required.

ITEM 3: DEFINITIONS

Every Annual Water Quality Report must include definitions of key terms that consumers will need to understand the contaminant data. You must use the definitions listed below:

- **Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as possible.
- **Maximum Residual Disinfectant Level (MRDL):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

- **Maximum Residual Disinfectant Level Goal (MRDLG):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Include the following definitions **only** if your report contains information on a detected contaminant that is regulated by an action level (e.g., lead, copper) or a treatment technique (turbidity):

- **Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

- **Action Level (AL):** The concentration of a contaminant that, if exceeded, triggers treatment or other requirements which a water system must follow.

Include the following definition **only** if your water system operated under a variance or exemption during the calendar year that the report describes:

- **Variances and Exemptions:** State permission not to meet an MCL or treatment technique under certain conditions.

In addition to the terms and definitions required by the Annual Water Quality Report regulation, your report may contain a number of terms and abbreviations that may be unfamiliar to your customers. Therefore, you may wish to include the following definitions in your report if the terms are referenced:

- ***Milligrams per liter (mg/l)*** corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).
- ***Micrograms per liter (ug/l)*** corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

- ***Nanograms per liter (ng/l)*** corresponds to one part of liquid to one trillion parts of liquid (parts per trillion - ppt).

- ***Picograms per liter (pg/l)*** corresponds to one part per of liquid to one quadrillion parts of liquid (parts per quadrillion – ppq).

- ***Picocuries per liter (pCi/L):*** Picocuries per liter is a measure of the radioactivity in water.

- ***Millirems per year (mrem/yr):*** Measure of radiation absorbed by the body.

- ***Million Fibers per Liter (MFL):*** A measure of the presence of asbestos fibers that are longer than 10 micrometers.

- ***Nephelometric Turbidity Unit (NTU):*** A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

- ***90th Percentile Value:*** The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

ITEM 4: DETECTED CONTAMINANTS

An essential part of the report is the table that shows the highest level of each detected contaminant (this is usually the value you report to the State to determine compliance) and the range of levels of that contaminant you found during the year, if compliance is based on an average of several samples. It is also suggested that you include the number of samples collected or analyses performed for each detected contaminant.

A detected contaminant is any contaminant detected by a New York State approved laboratory. Your report must include detected monitoring results for any samples used to determine compliance, any detected contaminant results collected and analyzed by the State, and/or detected monitoring results of additional samples required by the State or EPA (i.e., surveillance monitoring, Information Collection Rule monitoring, etc.).

Water quality parameters (i.e. pH) or data collected during research projects are not required to be included in the Annual Water Quality Report. However, since this information is usually public information, you may want to include it in your report. For example, the United States Geological

Survey uses analytical methods other than those approved by the EPA for drinking water analysis. These methods are usually much more sensitive than the drinking water methods and may include additional parameters.

The table of detected contaminants must not include data that are not detected (i.e., represented on a lab report with a less than sign "<", or denoted by the letters "LT" or "ND"). If you sometimes distribute water from auxiliary or back-up sources, you generally need to include monitoring results from these sources in the ranges of detections that you report in the table, unless the source's contribution is insignificant (e.g., one day per year).

Any of the contaminants detected in your water (except *Cryptosporidium, Giardia,* and radon that are discussed on page 12) must be included in the Annual Water Quality Report table of detected contaminants. You may want to organize your table by contaminant type (e.g., microbial, inorganic) or sampling site (e.g., treatment plant, distribution system). If you want to list all of the contaminants for which you monitored but did not detect, you must do so outside of the table of detected contaminants.

Table 1 provides a list of contaminants that may be detected at your water system. This table lists each of the contaminants for which you are required to test under Part 5, as well as additional contaminants that may be detected in your drinking water. It should be noted that you might not have tested for many of the contaminants listed on this table. Conversely, you may detect contaminants in your drinking water system that are not listed on this table. If you detect a contaminant that is not listed in Table 1, please contact your local health department representative or the State Health Department at (518) 402-7650 to obtain contaminant specific information.

To ensure that consumers can easily compare detected contaminant levels to their MCLs, your table(s) must display the MCL for each contaminant in units that express it as a number equal to or greater than 1.0. Table 1 includes the MCL, AL or TT, expressed in a number equal to or greater than 1.0 for each listed contaminant. Therefore when creating your table of detected contaminants, you could reference Table 1 and transfer the MCL, AL, or TT and the respective units specified in Table 1 to your table for each contaminant detected at your system. The MCLG and level of the detected contaminant must be reported in the same units as the MCL. For example, antimony results are usually reported by laboratories in mg/l; however, it is easier for customers to see that your water contains antimony at a level 10 times lower than the MCL if you report the MCL as 6 ug/l and the detected level as 1.0 ug/l than if you were to report the MCL as 0.006 mg/l and the detected level as 0.001 mg/l. In this case, Table 1 has converted the MCL of 0.006 mg/l to 6 ug/l, but you will still need to convert the detected level of 0.001 mg/l to 1 ug/l. This conversion is done by multiplying the detected level by 1,000. A chart displaying conversion factors is provided below.

Multiply	**By**	**To Obtain**
mg/l (ppm)	Multiply detected level by 1,000	ug/l (ppb)
mg/l (ppm)	Multiply detected level by 1,000,000	ng/l (ppt)
mg/l (ppm)	Multiply detected level by 1,000,000,000	pg/l (ppq)
ug/l (ppb)	Multiply detected level by 1,000	ng/l (ppt)
ug/l (ppb)	Multiply detected level by 1,000,000	pg/l (ppq)
ng/l (ppt)	Multiply detected level by 1,000	pg/l (ppq)
For Radioactive Contaminants		
Bequeral/m^3 (Bq/m^3)	Multiply detected level by 0.027	picocuries/l (pCi/l)
Note: *When you round results to determine compliance, round before multiplying the results by the factor listed in this table.*		

The Annual Water Quality Report includes data from monitoring completed during the past calendar year; however, if you have monitoring waivers, or for another reason monitor less than once per year, you must include the most recent data. For example, if you are preparing a report for the 2005 calendar year, but did not monitor for inorganics in 2005 (due to a monitoring waiver), you must report information for detected contaminants from the most recent inorganic sampling round (collected prior to 2005) for inorganics. Please note that your 2005 Annual Water Quality Report must not include information on samples collected during 2005. You would include the same information in subsequent years until a new sample is collected.

If the report contains data on detected contaminants that is not from the calendar year indicated, the report must include the **sample date** (month and year) of each detected contaminant and **a brief statement** explaining that the data presented is from the most recent monitoring done in compliance with regulations. An example of this statement is as follows:

"The State allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old."

You do not need to report monitoring results that are more than five years old.

For each detected contaminant, the table must contain the elements described below.

1. The **sample date** (month and year) of each detected contaminant.

2. The **MCL** expressed as a **number greater than 1.0** (see Table 1). If the contaminant is regulated by a TT, put the letters "TT" in place of the MCL. If the contaminant is regulated by an AL, specify the applicable Action Level.

3. The **MCLG** expressed in the same units as the MCL (see Table 1).

4. The **level of each detected contaminant** expressed in the same units as the MCL and MCLG:

- when compliance with the MCL is determined annually or less frequently: report the highest detected level at any sampling point and the range of detected levels, if applicable, expressed in the same units as the MCL;

- when compliance with the MCL is determined more frequently than annually: report the highest average of any of the sampling points used to determine compliance and the range of detected levels (see Appendix B);

- when compliance with the MCL is determined by calculating a running annual average of all samples taken from a single sampling point: report the highest average of any of the sampling points used to determine compliance and the range of detected levels (see Appendix B); and

- when compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points (for example, total trihalomethanes): report the average used to determine compliance and the range of detected levels.

- if you have detected contaminants for which the state or federal rules require monitoring (i.e., Information Collection Rule compounds listed in Table 17 of Part 5), except monitoring (i.e., Information Collection Rule) and/or *Cryptosporidium*, include the range of detections. See Table 1 for a list of these contaminants.

Note: When calculating the average for any of the above-described reporting scenarios, non-detected contaminants should be included in the calculation using a value of one-half of the reported detection limit.

5. Systems using surface water or groundwater under the direct influence of surface water are required to include information from **turbidity monitoring** in the Annual Water Quality report. Specific reporting requirements are as follows:

- Systems that are **required to install filtration, but have not**, must report the highest monthly average for turbidity (see Appendix B). Additionally, systems falling into this category must also include the following statement:

  "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

- Systems that have met the State's criteria for **avoiding filtration** must report the highest single turbidity measurement found in any one month (see Appendix B). The report should also include an explanation of the reasons for measuring turbidity. An example of this statement is as follows:

  "Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good

indicator of water quality. High turbidity can hinder the effectiveness of disinfectants."

- Systems that filter their water and use turbidity as an **indicator of filtration performance** must report the highest single combined filtered water measurement identified during the reporting year and the lowest monthly percentage of samples meeting the turbidity performance standards for the filtration technology being used (see Appendix B). These turbidity performance standard are as follows:

Filtration Type	Performance Standard[1]	Maximum Performance Standard[2]
Conventional	0.3 NTU	1 NTU
Direct	0.3 NTU	1 NTU
Alternative Technologies	1.0 NTU	5 NTU
Slow Sand	1.0 NTU	5 NTU
Diatomaceous Earth	1.0 NTU	5 NTU
1 – A treatment technique violation occurs if more than 5% of the composite filter effluent measurements taken each month exceed the performance standard values. 2 - A treatment technique violation occurs if the turbidity level of representative samples of the filtered water exceeds 1 or 5.0 NTU depending on system size.		

The report should also include an explanation of the reasons for measuring turbidity. An example of this statement is as follows:

"Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system."

6. For **lead and/or copper,** report the 90th percentile value from the most recent sampling (if it was detected above the detection limit), the range of detections, and the number of sampling sites that exceeded the action level (see Appendix B).

7. Systems that collect **fewer than 40 total coliform samples per month** must report the highest number of positive samples collected in any one month (see Appendix B).

   Systems that collect **40 or more total coliform** samples per month must report the highest percentage of positive samples collected in any one month (see Appendix B).

8. For ***E. Coli*** report the total number of positive samples detected.

9. Laboratory results for **radioactive contaminants** usually present the detected level as well as a range (+/-). For example, a laboratory may report a detected level for gross alpha as 8 pCi/l +/- 5. For Annual Water Quality Report reporting purposes you should report the actual level detected 8 pCi/l, not the potential range (+/- 5).

10. When reporting **beta particles** detected in your water at or below 50 pCi/l, you should report the detected level in pCi/l (rather than mrem/year). Reporting this way provides consumers a standard against which to compare that detected level. In the MCL column of your table include 50* (rather than the actual MCL of 4 mrem/year) and include a footnote to the table that says the following:

    *"*The State considers 50 pCi/l to be the level of concern for beta particles."*

    If you detect beta particles above 50 pCi/L, you must determine the actual radioactive constituents present in the water to calculate the dose exposure levels in mrem/year, and must report both the detected level and MCL as mrem/year. If you need assistance in determining the dose exposure levels in mrem/year, you should contact the DOH.

11. For each detected contaminant you must include the likely contaminant source, using the best information you have available. For example, information on potential contaminant sources may be included in the **Source Water Assessment**. If you lack reliable information on the specific source of a contaminant, include one or more of the typical sources listed in Table 1 that is most applicable to your situation. Please note, if you have a detected contaminant and its likely contaminant source is listed as a metal refinery and there are not metal refineries in your area, don't say that metal refineries are the source of the contaminant in your water.

12. For any contaminant detected in **violation of a MCL, or a TT, or exceeding an AL**, clearly highlight in the table the violation or the exceedance. This indication could, for example, take the form of a different color type, a footnote, a separate column, or a larger or bolder font. Near, but not in the table, you must include an explanation of the length of the violation/exceedance, the potential adverse health effects (from Table 1), and the actions taken to address the violation/exceedance.

Multiple Distribution Systems – If your system supplies water through two or more distribution systems that use different raw water sources and are not physically interconnected, you may want to include in the table a separate column of detection data for each service area. Describe the area that each distribution system serves.

An example of a table of detected contaminants is presented below. In this example, the Village system uses conventional filtration and serves less than 10,000 people. Additional guidance for reporting detected contaminants is presented in Appendix B.

Example:

In accordance with State regulations, the Village of Tyler routinely monitors your drinking water for numerous contaminants. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrate, volatile organic contaminants, total trihalomethanes, and synthetic organic contaminants. The table presented below depicts which contaminants were detected in your drinking water. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Therefore some of the data, though representative of the water quality, is more than one year old.

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum) (Range)	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform	**Yes**	11/05	3 positive samples	n/a	0	MCL= 2 or more positive samples	Naturally present in the environment
Turbidity[1]	No	11/5/05	0.9 NTU	NTU	N/A	TT= $\leq$ 1.0 NTU	Soil Runoff
Turbidity[1]	No	11/05	96% $\leq$ 0.3	NTU	N/A	TT=95% of samples $\leq$ 0.3 NTU	
Inorganic Contaminants							
Fluoride	No	5/03	0.66 ND-0.66	mg/l	n/a	MCL=2.2	Erosion of natural deposits; water additive that promotes strong teeth
Copper	No	6/05	1.1[2] 0.55 – 1.3	mg/l	1.3	AL=1.3	Corrosion of galvanized pipes; Erosion of natural deposits

Table of Detected Contaminants

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum) (Range)	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Lead	**Yes**	6/05	23[3] ND – 35	ug/l	0	AL- 15	Corrosion of household plumbing systems; Erosion of natural deposits
Disinfection Byproducts							
Total Trihalomethanes	No	6/05	50[4] 20 – 75	ug/l	n/a	MCL=80	By-product of drinking water chlorination

Notes:

1 – Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 11/5/05 (.9 NTU). State regulations require that turbidity must always be less than or equal to 1.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. Although November 2005 was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

2 – The level presented represents the 90th percentile of the 10 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, ten samples were collected at your water system and the 90th percentile value was the ninth highest value (1.1 mg/l). The action level for copper was not exceeded at any of the sites tested.

3 – The level presented represents the 90th percentile of the 10 sites tested. The action level for lead was exceeded at two of the 10 sites tested.

4 – This level represents the annual quarterly average calculated from data collected.

Definitions:

Maximum Contaminant Level (MCL)- The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Contaminant Level Goal *(MCLG)* - The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Action Level (AL)– The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique *(TT)* – A required process intended to reduce the level of a contaminant in drinking water.

Nephelometric Turbidity Unit *(NTU)* - A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Milligrams per liter *(mg/l)* – corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter *(ug/l)* corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Non-Detects *(ND)* – Laboratory analysis indicates that the constituent is not present.

The table shows that we had an MCL violation for total coliform and an Action Level exceedance for lead. On November 15, 2005, one of the 3 monthly samples collected indicated the presence of total coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Four additional samples were subsequently collected on November 16, 2005, and two of those indicated the presence of total coliform, causing us to violate the MCL for total coliform. We notified you of this violation through a notice in the local newspaper. The problem was corrected through a readjustment of our disinfection system and chlorine residuals were increased and total coliform was not detected in additional samples. It should be noted that E. Coli, associated with human and animal fecal waste, was not detected in any of the samples collected.

The table revealed that the water level for lead exceeded the action level of 15 ug/l in more than 10 percent of the homes tested. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the

general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and you should flush your tap for 30 seconds to 2 minutes before using your tap water. Additional information regarding lead in drinking water is available from the Safe Drinking Water Hotline (1-800-426-4791).

The Tyler Water Department has implemented a program to minimize lead levels in your drinking water. This program includes: 1) the addition of corrosion control chemicals; 2) the replacement of lead service lines; and 3) public education. The system will be conducting lead and copper testing again in 2005.

ITEM 5: REPORTING ON *CRYPTOSPORIDIUM*, *GIARDIA*, RADON AND UNREGULATED CONTAMINANTS

Cryptosporidium* and *Giardia

If you monitored for *Cryptosporidium* and *Giardia* and did not detect them, you do not need to discuss the monitoring or the results in your report.

- If your system performed monitoring which indicates the presence of ***Cryptosporidium*** either in its **source** or its **finished water**, include a summary describing: the sampling sites; the number of tests conducted during the reporting year; the testing results; any actions taken in response to those results; and an explanation of the significance of the results. An example is provided below.

Example:

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. During 2005, as part of our routine sampling plan, 25 samples of Placid Reservoir source water were collected and analyzed for Cryptosporidium oocysts. Of these samples, three were presumed positive for Cryptosporidium, and one was confirmed positive. Therefore, our monitoring indicates the presence of Cryptosporidium in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Five additional filtered water samples were tested for Cryptosporidium oocysts and none were detected. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

- If your system performed monitoring which indicates the presence of ***Giardia*** either in its **source** or its **finished water**, include a summary describing: the sampling sites; the number of tests conducted during the reporting year; the testing results; any actions taken in response to those results; and an explanation of the significance of the results. An example is provided below.

Example:

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. During 2005, as part of our routine sampling plan, 25 samples of Placid Reservoir source water were collected and analyzed for Giardia cysts. Of these samples, ten were presumed positive for Giardia, and one was confirmed positive. Therefore, our monitoring indicates the presence of Giardia in our source water. Current test methods do not allows us to determine if the organisms are dead or if they are capable of causing disease. Five additional filtered water samples were tested for Giardia cysts and none were detected. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with

Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers or other settings where handwashing practices are poor.

Radon

If your system performed monitoring that indicates the **presence of radon** in its **finished water**, include a summary describing: the sampling sites; the number of tests conducted during the reporting year; the testing results; any actions taken in response to those results; and an explanation of the significance of the results.

Example:

Radon is a naturally occurring radioactive gas found in soil and outdoor air that may also be found in drinking water and indoor air. Some people exposed to elevated radon levels over many years in drinking water may have an increased risk of getting cancer. The main risk is lung cancer from radon entering indoor air from soil under homes.

In 2005, we collected four representative water samples (one per quarter) that were analyzed for radon. The average of the four samples was 250 picocuries/liter (pCi/l). For additional information call your state radon program (1-800-458-1158) or call EPA's Radon Hotline (1-800-SOS-Radon).

Unregulated Contaminants

If your system performed monitoring for contaminants listed in Section 5-1.52 Table 16 of Part 5, your report must identify a contact person and provide the telephone number to reach that contact person for information on the monitoring results.

Example:

In 2005, we were required to collect and analyze drinking water samples for the following unregulated contaminants: (list contaminant names, number of samples, and date collected). You may obtain the monitoring results by calling (provide contact name) at (provide telephone number).

ITEM 6: ADDITIONAL EDUCATIONAL INFORMATION FOR ARSENIC, NITRATE, LEAD AND FLUORIDE

If your water contains:

- **Nitrate** above 5 mg/l, but below 10 mg/l (the MCL);
- **Arsenic** above 5 ug/l, but below 10 ug/l (the federal MCL);
- **Lead** above 15 ug/l (the Action Level) in more than 5%, but fewer than 10%, of the sites sampled [if your system samples fewer than 20 sites and has even one sample above the AL, you will need to include the standard explanation for an AL exceedance]; and/or
- **Fluoride** above 2 mg/l, but below 2.2 mg/l (the MCL),

you must include in your report the relevant educational statement listed below about the contaminant.

- **Nitrate**. Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from you health care provider.

- **Arsenic.** EPA has promulgated a drinking water arsenic standard of 10 parts per billion. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effect of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

- **Lead.** Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

- **Fluoride.** Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

If you believe that the language above is not relevant to your situation, you may adjust the language in consultation with the DOH.

ITEM 7: COMPLIANCE WITH OTHER STATE SANITARY CODE REQUIREMENTS

If your water system violated any of the below listed State Sanitary Code requirements, during the year covered by the report, your Annual Water Quality Report must describe the violation(s). Just as you must explain the potential health effects of any MCL violation, you must provide a clear and readily understandable explanation of any other violation, potential adverse health effects (if any), and the steps the system has taken to correct the violation.

- **Treatment Techniques**

  1. **Filtration and disinfection** (Surface Water Treatment Rule requirements). If the violation was a failure to install adequate filtration or disinfection equipment or processes, or there was a failure of that equipment or process, include the following language:

     Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

  2. **Lead and copper control requirements**. If the violation was a failure to meet corrosion control treatment, source water treatment, or lead service line requirements, include the health effects language for lead or copper listed in Table 1.

  3. **Acrylamide and Epichlorohydrin**. If you violate either treatment technique, you must include the relevant health effects language from Table 1.

- **Monitoring, Reporting, and Record Keeping Requirements.** If your system failed to take the sample on time, the report should say "health effects unknown". If your system took the samples accurately and on time, but mailed the results late, you do not need to discuss health effects.

- **Variances, Exemptions, Administrative or Judicial Orders**. If your system operated under a variance or exemption at any time during the year covered by the report, include an explanation of the variance or exemption, the date that it was issued, why it was granted, when it is up for renewal, and a status report on what the system is doing to remedy the problem. Also, inform your customers how they may participate in the review of the variance or exemption.

  Additionally, the report must include a description of any violation of a variance, an exemption, or an administrative or judicial order.

ITEM 8: EDUCATIONAL STATEMENTS

Your Annual Water Quality Report must include the following three statements:

1. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

2. Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system

disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

3. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants.

   In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

ITEM 9: OTHER INFORMATION

You are not limited to providing only the required information in your Annual Water Quality Report. You may use the report to explain source water protection efforts, include a diagram of your treatment processes, and/or explain the costs associated with making the water safe to drink. You may include a statement from the mayor or general manager or you could educate your customers about water conservation, taste and odor issues, affiliations with programs such as the Partnership for Safe Water, and so forth. You may want to provide the address for EPA's drinking water web site (*www.epa.gov/safewater/*) or the DOH web site (*www.health.state.ny.us)*. The only limitation on this information is that it must not interfere with the educational purpose of the report.

Community water systems with fewer than 1,000 service connections are encouraged to include relevant information addressed in the Section 6.0 of this document. Small systems may wish to include information on water conservation measures, since conservation may decrease a system's energy costs and reduce source demand and the use of treatment chemicals.

6.0 ADDITIONAL REQUIREMENTS FOR CWSS WITH 1,000 OR MORE SERVICE CONNECTIONS

In addition to the report content requirements outlined above, systems with 1,000 or more service connections are also required to include seven additional items in their Annual Water Quality Reports (Section 1150 of New York State's Public Health Law). A description of each of these items is provided below.

ITEM 1: WATER USE DESCRIPTION

For systems that calculate water use of all customers with meters, the Annual Water Quality Report must contain an accounting of the total annual amount of water withdrawn, delivered, and lost from the system.

Example:
During 2005, the total amount of water withdrawn from the aquifer was 1,926,190,000 gallons. Approximately 94% of the total amount of water withdrawn was billed directly to consumers. The balance, or unaccounted for water, was used for fire fighting purposes, hydrant use by Town trucks for street sweeping, distribution system leaks and unauthorized use.

Example:
During 2005, a total of 296,700,000 gallons of water was pumped from Mirror Lake into the Village system. The Town of Evans purchased 66,294,676 gallons, the Town of Marcy purchased 27,405,360 gallons, and the Village of Brighton purchased 19,318,000. Village residents including the Correctional Facilities used 100,155,005 gallons.

This leaves an unaccounted for total of 83,526,959 gallons. This is the amount of water used during flushing, in Village buildings, and lost due to old and inaccurate meters needing replacement.

Example:

The Skyward Water Company provides service to more than 265,000 people. About 70 percent of our water supply comes from 55 wells located throughout the county. The remaining 30 percent of our supply is surface water which comes from the Crystal Reservoir. In 2005, the Skyward Water Company produced 10,550.2 million gallons (MG) of water and sold 9,064.5 MG. We determined that 1,541 MG or 14.6% of the water we produced is non-revenue-producing water. This is water lost due to leaks, main breaks, under-registering meters, fire fighting, hydrant flushing and theft of service.

ITEM 2: WATER SOURCE RESTRICTION

Your Annual Water Quality Report must include a brief description of any water source that was restricted, removed from service, or otherwise limited in its use, during the reporting year. The report should also explain any actions taken to secure new supplies or replace lost capacity.

Example:

Our water supply includes both groundwater drawn from 20 wells located throughout the county and surface water from the Placid Reservoir. Well #19 (one of four wells located at the southeast corner of Sunnyside Road and Maple Avenue) was temporarily removed from service in July 2005 as a result of drought conditions. The well was placed back on-line in October 2005.

Example:

All of the water we supply to you comes from beneath the ground and is referred to as groundwater. We draw this water into our system through over 100 wells located throughout the county. During 2005, four wells were removed from service. The Hillcrest Well located in the Village of Colden was removed because it did not meet the current standard for nitrate. In January, three wells located in the Town of Skylight were removed from service because they did not meet the current organic standard from tetrachloroethene. These wells were brought back into routine service in December, as a result of the use of granular activated carbon filtration.

ITEM 3: WATER CONSERVATION MEASURES

Your Annual Water Quality Report must include an explanation of water conservation measures available to customers, such as, but not limited to: retrofitting plumbing fixtures, altering irrigation timing, using irrigation sensors, leak detection, proper use of water conserving appliances, daily conscientious water use and the estimated savings in water and energy or money from the use of such measures.

Example:

Although our area is very fortunate to have access to a water supply which more than meets our demands, conservation efforts by both the city and the consumer are prudent in deterring increasing costs. As a consumer you can participate in this water conservation effort. The following are some ideas that can be directly applied to your individual homes: 1) Use water-saving, flow-restricting shower heads and low flow faucets (aerators); 2) Repair dripping faucets and toilets that seem to flush by themselves; 3) Replace your toilet with a low flush model or place a brick in your tank to reduce the volume used on each flush; 4) Water your garden and lawn only when necessary. Remember that a layer of mulch in the flower beds and garden is not only aesthetically pleasing but will help retain moisture; 5) Water your lawn after 6:00 p.m., this prevents water loss due to evaporation; 6) When washing your car don't let the hose run continuously; and 7) When brushing your teeth, shaving or shampooing avoid running the water unnecessarily.

Example:

Why Save Water and How Do We Avoid Wasting It? *Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:*

- *Saving water saves energy and some of the costs associated with both of these necessities of life;*
- *Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and*
- *Saving water lessens the strain on the water system during a dry spell or drought, helping to*

avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water and saving yourself money in the process by becoming conscious of the amount of water your household is using and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips:

- *Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.*
- *Turn off the tap when brushing your teeth.*
- *Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.*
- *Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.*
- *Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.*

Example: *The Town of Savewater encourages water conservation. Although the Snake River is an unlimited source of good quality water, it must not be wasted. A few simple steps will preserve the resource for future generations and also save up to 30% on your bill.*

- *Use low flow shower heads and faucets*
- *Repair all leaks in your plumbing system*
- *Water your lawn sparingly early morning or late evening*
- *Do only full loads of wash and dishes*
- *Wash your car with a bucket and hose with a nozzle*
- *Don't cut the lawn too short; longer grass saves water*
- *Pamphlets are available at the Water Billing Department in the Town Hall.*

ITEM 4: FACILITY MODIFICATION

A description of any major facility modifications completed by the water system during the reporting period should be included in the Annual Water Quality Report. This description should include the effect the modification had on the water system. Additionally, the report should include a discussion of capital improvements needed or planned.

Example:

In 2005, the White Water District completed construction of the new filter plant building on Grace Avenue. This building will eventually house a pressure filter that will be used to enhance the quality of the finished water. New water mains have been installed on South Main Street as part of a two year project of water main replacement in that area.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The cost of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

Example:

During 2005, the Village redeveloped all five of its groundwater wells. The five wells were originally installed in 1995 and were redeveloped at a cost of $60,000. After about 10 years, the yield on each well drops below the useful point and the well must be abandoned. A new well can be drilled as close as 10 feet away. Using this approach, the Village will be able to drill new wells as needed.

Example:

In 2005, we completed construction of a pilot plant at the water treatment facility. This pilot plant is capable of completely modeling all of out treatment processes at a flow of up to 10 gallons per minute or 0.1% of the full plant capacity. The pilot plant is currently being operated to model our existing processes in effort to optimize treatment and as a training tool for our staff. In 2005, we will evaluate treatment enhancements that can be implemented to further improve quality and reliability, reduce costs and increase plant capacity without the construction of new processes.

Example:

During 2005, the Village of Whiteface implemented several projects to serve you better. We added 10,000 feet of new water distribution pipe throughout the Village. Construction work was also completed on a new 1 million gallon storage tank.

This tank will provide additional fire protection flow for residents. Standby power equipment and other improvements will be completed at the Lakeview Water Treatment Plant. We anticipate that other work will be completed in order to comply with New York State Chemical Bulk Storage regulations.

ITEM 5: ANNUAL AVERAGE CHARGE FOR WATER

Systems that bill their customers must include the annual average charge for water in their Annual Water Quality Report. This may be reported as the annual charge per average resident user or the annual charge per one thousand gallons of water delivered.

Example:
Our water rate structure is designed to promote conservation; the more you use, the more you pay. The average consumer pays a minimum quarterly charge of $6.00 for 8,000 gallons and $0.65 per thousand gallons for the next 50,000 gallons. Large users who pay 0.85 per thousand gallons for the next 42,000 gallons and $1.05 per thousand gallons for usage over 100,000 are encouraged to lower their consumption, and at the same time, their household costs.

Example:
The cost per thousand gallons of water in the Village of Waterville in 2005 was $1.40, down 28% from the 1997 rate.

Example:
In 2005, City water customers were charged $1.20 per 1,000 gallons while Town customers were charged $1.00 per 1,000 gallons plus an annual water tax of $23.00.

Example:
The water rate is $2.05 per 1,000 gallons with a 7,000 gallon minimum quarterly. Water bills are mailed our quarterly and unpaid balances are subject to a 10% penalty after 30 days. The average annual charge for water for a family of four is approximately $250.00.

Example:
The New York Public Service Commission sets our water rates to cover the costs of providing service. The average residential customer uses approximately 3,000 cubic feet of water (22,440 gallons) per quarter. The average bill is approximately $437 annually (including taxes). A typical dollar pays for system improvements, operations and maintenance, taxes, interest and debt, dividends and reinvestment and depreciation costs.

ITEM 6: REPORTING ON NON-DETECTED CONTAMINANTS

Information on non-detected contaminants from sampling used to determine compliance **must** be included in the Annual Water Quality Report. This information **may not** be included in the Table of Detected Contaminants described in Section 5.0, Item 4 of this document. This information may be described in a brief narrative or presented in the report as a separate table or list.

Example:
According to State regulations, the Sunnyside Water District routinely monitors your drinking water for various contaminants. Your water is tested for inorganic contaminants, nitrate, lead and copper, volatile organic contaminants, synthetic organic contaminants and total trihalomethanes. Additionally, your water is tested for coliform bacteria four times a month. The contaminants detected in your drinking water are included in the Table of Detected Contaminants.

Another example of the narrative could include adding a paragraph after your table of detected contaminants which lists the individual contaminants that were analyzed for but not detected.

Example:
In total, 10 drinking water compliance samples were collected at the system. The following contaminants were not detected: antimony, arsenic, beryllium, benzene, bromobenzene, bromochloromethane, carbon tetrachloride, chloroethane, chloromethane, 4-chlorotoluene, 1,2-dichlorobenzene, 2,2-dichloropropane, 1,1-dichloropropene, trans-1,3-dichloropropene, ethylbenzene, hexachlorobutadiene, trichloroethene, trichlorofluoromethane, 1,2,3-trichloropropane, 1,2,4-trimethylbenzene, xylene, acenapthene, acenapthylene, acetochlor, anthracene, betazon, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, bromocil, carboxin, chrysene, 2,4-DB, p'p-DDD, p'p-DDE, p'p-DDT, dioxin,

EPTC, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, malathion, molinate, naphthalene, 4-nitrophenol, paraquat, parathion, and vernolate.

Please note that the contaminants listed above represent only a sample of those required to be tested. Instead of presenting non-detected contaminants in a narrative format you may choose to present this information in a tabular format particularly when monitoring is done at different frequencies for groups of contaminants (i.e., inorganic contaminant monitoring done once every three years).

ITEM 7: ANNUAL WATER QUALITY REPORT SUPPLEMENT

The analytical results for samples of source(s) of water supply may be placed in a supplement to the Annual Water Quality Report, unless the results are: (1) for *Cryptosporidium* or *Giardia; (2)* used to determine compliance (see page 8); or (3) listed in Table 1 of this document. Therefore, the supplement may be used to publish detailed individual well results. For example, the Annual Water Quality Report regulation requires you to report the highest detected level, highest average, or running annual average (based on compliance calculations – see page 8) and the range of detects, detailed information for individual well results will not be included in your Annual Water Quality Report. This detailed information shall be placed in the supplement. Additionally, the supplement may be used to publish raw water quality data not used for compliance monitoring.

It should be noted that not all systems with 1,000 or more service connections need to prepare a supplement. Systems must prepare a supplement if they have collected any data during the previous calendar year that was not required to be included in their Annual Water Quality Report. If a supplement is prepared, the Annual Water Quality Report must contain a statement that describes what is in the supplement and that it is available to the customer upon request. The supplement does not have to be mailed or directly delivered to all of your bill-paying customers. However it must be:

(1) published in a notice at least one-half page in size in one newspaper of general circulation within the water district; or

(2) made available on the Internet, along with supplements from the two prior years, if such supplements exist, and notice of the availability of such information on the Internet should be clearly provided in the report and on each billing statement; or

(3) made available at all New York State documents information access centers, document reference centers, documents depository libraries and documents research depository libraries within the water district and if no such libraries exist within the water district at a public library within the water district, and notice of availability of the supplement at such library or libraries shall be clearly provided in the report and on each billing statement.

7.0 WHAT SHOULD AN ANNUAL WATER QUALITY REPORT LOOK LIKE?

You do not need a fancy computer or a graphic designer to produce an Annual Water Quality Report that is easy to read and inviting to your customers. The DOH has developed two Annual Water Quality Report templates (one for systems serving fewer than 1,000 service connections and one for systems serving 1,000 or more service connections) that are available to water suppliers. Electronic copies of the templates will be available on the New York State DOH web page at *www.health.state.ny.us* (click on the Topics A to Z button, go to "Drinking Water" and "Annual Water Quality Reports"). Although the State has prepared template reports, you are not required to use these templates to complete your Annual Water Quality Report. You may choose to use portions of the templates or create your own report format. Remember that the best way to design your report is to spend some time looking at the template or at other reports. See what catches your eye, and copy it. A few things to consider:

- Write short sentences. Keep your paragraphs short, too.
- Don't make your text size too small. You might want to squeeze a few extra sentences in your report, but if you add too much, people might ignore the entire report.

- Give a draft of your Annual Water Quality Report to relatives or friends who aren't drinking water experts and ask them if it makes sense. Ask customers for their comments when you publish the report.

- Don't distract from your main message with graphics and/or pictures that don't complement your message.

- Be as simple and straight forward as possible. Avoid acronyms, initials, and jargon.

- Consider printing the report on recycled paper and taking other steps to make the report "environmentally friendly". If you hope to get your customers involved in source water protection, set a good example for them.

8.0 How Must a CWS Distribute its Annual Water Quality Report?

Item 1: Report Distribution to Customers

You must mail or directly deliver a copy of your Annual Water Quality Report to each of your bill-paying customers, and make a good faith effort to get your reports to non-bill-paying customers by May 31st of each year. It is in your system's interest to spread the word about the quality of its water. Since many consumers of your water do not receive bills (people such as apartment renters), you must make a serious and good faith effort to reach non-bill-paying consumers. A good faith effort means selecting the most appropriate method(s) to reach those consumers from a menu of options. Some examples of mailing, direct delivery and good faith distribution efforts are provided below. Many small systems (i.e., mobile home parks, apartment complexes, and institutions) have no bill paying customers. These systems may satisfy the direct delivery requirement by posting their Annual Water Quality Report in a public area or on a community bulletin board.

Distribution Method	Examples
Mailing	• U.S. Postal Service • Utilizing a Bulk Mailing Permit • Including report with water bills
Direct Delivery	• Publication of the Annual Water Quality Report in a local paper that is **delivered to all** bill-paying customers (i.e., *Penny Saver, Free Trader)* • Hand delivery of the Annual Water Quality Report by meter readers or system personnel (please note: information can not be placed in U.S. Postal Service mail boxes) • Publication of the Annual Water Quality Report in a municipal newsletter that is delivered to all bill-paying customers.
Good Faith Efforts	• Posting the report on the Internet • Posting the report on a community bulletin board or a mobile home park or apartment building bulletin board • Mailing the report to all postal patrons • Advertising the availability of the report in newspapers, TV, and radio • Publishing the report in a local newspaper; posting the report in a public area (i.e., municipal buildings, libraries, schools, churches) • Delivering multiple reports for distribution by single-billed customers such as apartment buildings or large private employers • Delivering the report to community organizations.

Community water systems must keep their reports on file for five years, and make the reports available to the public upon request.

Systems that serve more than 100,000 individuals must post their reports on the Internet. The DOH encourages other systems to post their reports on the Internet as well. Many local governments have Internet sites where you could post your report, even if your system itself does not have a site.

ITEM 2: REPORT DISTRIBUTION TO GOVERNMENT AGENCIES AND REPORT CERTIFICATION

By May 31st all community water systems must submit a **copy of their Annual Water Quality Report** to the New York State Department of Health and to the county or district health department office that has jurisdiction over the water system. The address for the New York State Department of Health is provided below. An address list for the county and district health department offices is provided in Appendix A.

Commissioner Antonia C. Novello
NYS Department of Health
Attn: John M. Dunn, P.E.
Acting Director, Bureau of Water Supply Protection
Flanigan Square, Room 400
547 River Street
Troy, NY 12180-2216

Systems with 1,000 or more service connections should also submit **a copy of their supplement**, if prepared, to the New York State Department of Health.

By May 31st all community water systems that serve 1,000 or more service connections must **also** submit a **copy of their Annual Water Quality Report and a copy of the supplement**, if prepared, to the New York State Department of Conservation at the following address:

Commissioner Denise M. Sheehan
NYS Department of Environmental Conservation
Attn: Director, Bureau of Water Permits
625 Broadway
Albany, NY 12207

By May 31st of each year, **investor-owned** (regulated by the Public Service Commission) community water systems must also forward **a copy of their Annual Water Quality Report** to the New York State Department of Public Service at the following address:

Mr. Art Gordon
Chief, Water Rates Section
New York State Department of Public Service
3 Empire State Plaza
Albany, NY 12223

By September 1st of each year, community water systems must submit a **Certification Form** to the New York State Department of Health in Troy, New York and to the county or district health department office that has jurisdiction over the water system. The certification must indicate how the report was distributed and that the information within the report is correct and consistent with the compliance monitoring data previously submitted to the state. A sample Certification Form is included in Appendix C.

9.0 APPLICABLE DATES

A table of applicable dates for the Annual Water Quality Report regulation is presented below.

Date	Description of Action Item
April 1st of each year	• A community water system that sells water to another community water system must deliver information outlined in Section 5.0, items 2, 4, 5, and 6. For systems with 1,000 or more service connections, the seller must also supply them with the information outlined in Section 6.0, items 2, 6, and 7. • The April 1st date may be changed to a different date if the seller and the purchaser mutually agree upon the new date, and specifically include that date in a contract between the parties.

Date	Description of Action Item
May 31st of each year	• Systems must deliver a copy of their report to their bill-paying customers and take good faith efforts to reach consumers who do not get water bills. • Community water systems with fewer than 1,000 service connections must deliver a copy of their report to the New York State Department of Health and to the county or district health department office that has jurisdiction over the water system. • Community water systems with 1,000 or more service connections must submit a copy of their Annual Water Quality Report and the supplement, if prepared, to the New York State Department of Health, the New York State Department of Environmental Conservation, and the county or district health department office which has jurisdiction over the water system. • Investor-owned community water systems must forward a copy of the Annual Water Quality Report to the New York State Department of Public Service. • A new community water system must deliver its first report to its customers and a copy of the report and the supplement, if prepared to the required regulatory agencies by May 31st after its first full calendar year in operation and annually thereafter.
September 1st of each year	• All community water systems must submit a Certification Form to the New York State Department of Health in Troy and to the county or district health department office that has jurisdiction over the water system.

Table 1

Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Microbiological Contaminants					
Total Coliform Bacteria	n/a[1]	Any positive sample[2]	0	Naturally present in the environment.	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
E. Coli	n/a	Any positive sample[3]	0	Human and animal fecal water.	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.
Turbidity (for systems that must install filtration but have not – include the highest monthly average for the entry point).	NTU[4]	1 NTU[5]	N/A	Soil Runoff.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium.
Turbidity (for systems that have met the criteria for avoiding filtration – include the highest single measurement found at the entry point during the year).	NTU	5NTU[6]	N/A	Soil Runoff.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium.
Turbidity (as a treatment technique for systems that filter and use turbidity as an indicator of filtration performance – include the highest single measurement **and** the lowest monthly percentage of samples meeting the specified turbidity limits). Conventional Filtration Slow Sand Filtration Diatomaceous Earth Filtration	NTU	 TT-0.3 TT-1.0 TT-1.0	N/A	Soil Runoff.	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium.

[1] N/A means not applicable.

[2] A violation occurs at systems collecting 40 or more samples per month when more than 5% of the total coliform samples are positive. A violation occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive.

[3] A violation occurs when a total coliform positive sample is positive for *E. Coli* and a repeat total coliform sample is positive or when a total coliform positive sample is negative for *E. Coli* but a repeat total coliform sample is positive and the sample is also positive for *E. Coli.*

[4] NTU – Nephelometric Turbidity Unit; a measure of particles in water.

[5] A MCL violation occurs when the average of all daily entry point analyses for the month exceed the MCL rounded off to the nearest whole number

[6] A violation occurs when the average of two consecutive daily entry point analyses exceeds the MCL rounded off to the nearest whole number.

Table 1 provides a list of contaminants which may be detected at your water system. This table lists each of the contaminants you are required to test for under Part 5, as well as additional contaminants that may be detected in your drinking water. It should be noted that you might not have tested for many of the contaminants listed on this table. Conversely, you may detect contaminants in your drinking water system that are not listed on this table. If you detect, a contaminant that is not listed in Table 1, please contact the State Health Department at (518) 402-7650 to obtain contaminant specific information.

Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Radioactive Contaminants					
Beta particle and photon activity from manmade radionuclides	mrem/ yr[7]	4[8]	0	Decay of natural deposits and man-made emissions.	Certain materials are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Gross alpha activity (including radium – 226 but excluding radon and uranium)	pCi/L[9]	15[10]	0	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium – 226 and 228	pCi/L	5[11]	0	Erosion of natural deposits.	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Inorganics[11]					
Asbestos	MFL[12]	7	7	Decay of asbestos cement water mains; Erosion of natural deposits.	Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.
Antimony	ug/l[13]	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.	Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.
Arsenic	ug/l	10[14]	n/a	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
Barium	mg/l[15]	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

[7] Millirems per year (mrem/yr) – measure of radiation absorbed by the body.
[8] If beta particles are detected at or below 50 pCi/l, report the detected level in pCi/l. This will provide consumers with a standard against which to compare that detected level, include "50*" in the MCL column (rather than the actual MCL of 4 mrem/year) and include a footnote to the table that says "The State considers 50 pCi/l to be the level of concern for beta particles." If beta particles are detected above 50 pCi/l, the water supplier must determine the actual radioactive constituents present in the water to calculate the dose exposure level in mrem/year, and must report both the detected level and MCL as mrem/year.
[9] Picocuries per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.
[10] A MCL violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.
[11] If the results of a monitoring sample analysis exceed the MCL, the water supplier shall collect one more sample from the same sampling point within two weeks of as soon as practical. An MCL violation occurs when the average (rounded off to the same number of significant figures as the MCL for the contaminant in question) of the two results exceed the MCL.
[12] Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers
[13] Micrograms per liter (ug/l) or parts per billion (ppb).
[14] If arsenic is detected above 5 ug/l, but below 10 ug/l (the federal MCL) your Annual Water Quality Report must contain the following statement: "EPA has promulgated a drinking water arsenic standard of 10 parts per billion. While your drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effect of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems."
[15] Milligrams per liter (mg/l) or parts per million (ppm).

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Beryllium	ug/l	4	4	Discharge from metal refineries and coil-burning factories; Discharge from electrical, aerospace, and defense industries.	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Cadmium	ug/l	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chloride	mg/l	250	N/A	Naturally occurring or indicative of road salt contamination.	No health effects. The MCL for chloride is the level above which the taste of water may become objectionable. In addition, to the adverse taste effects, high chloride concentration levels in the water contribute to the deterioration of domestic plumbing and water heaters. Elevated chloride concentrations may also be associated with the presence of sodium in drinking water.
Chromium	ug/l	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.	Some people who use water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.
Copper	mg/l	AL = 1.3[16]	1.3	Corrosion of household plumbing systems; Erosion of natural deposits; leaching from wood preservatives.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Cyanide (as free Cyanide)	ug/l	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride	mg/l	2.2	N/A	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories.	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
Iron	ug/l	300[17]	N/A	Naturally occurring.	Iron has no health effects. At 1,000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multivitamins may contain 3,000 or 4,000 micrograms of iron per capsule.

[16] Include the 90th percentile value for the most recent sampling, the number range of detections, and the number of sites that exceeded the action level. If lead is detected above 15 ug/l (the Action Level) in more than 5%, but fewer than 10%, of the sites sampled [if your system samples fewer than 20 sites and has even one sample above the AL, you will need to include the standard explanation for an AL exceedance], your Annual Water Quality Report must include the following statement: "Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791)."

[17] If iron and manganese are present, the total concentration of both should not exceed 500 ug/l.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Lead	ug/l	AL=15[17]	0	Corrosion of household plumbing systems; Erosion of natural deposits.	Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
Manganese	ug/l	300[18]	N/A	Naturally occurring; Indicative of landfill contamination.	The Food and Nutrition Board of the National Research Council determined an estimated safe and adequate daily dietary intake of manganese to be 2,000-5,000 micrograms for adults. However, many peoples diets lead them to consume even higher amounts of manganese, especially those who consume high amounts of vegetable or are vegetarian. The infant population is of greatest concern. It would be better if the drinking water were not used to make infant formula since it already contains iron and manganese. Excess manganese produces a brownish color in laundered goods and impairs the taste of tea, coffee, and other beverages. Concentrations may cause a dark brown or black stain on porcelain plumbing fixtures. As with iron, manganese may form a coating on distribution pipes. These may slough off, causing brown blotches on laundered clothing or black particles in the water.
Mercury (Inorganic)	ug/l	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Selenium	ug/l	50	50	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.	Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Silver	ug/l	100	N/A	Naturally occurring, discharge from photographic and radiographic processing; Manufacturing of electronic products; Jewelry making; Plating and soldering.	Some people who drink water containing silver in excess of the MCL over may years could experience argyria or argyrosis, a permanent blue-gray discoloration of the skin, eyes, and mucous membranes.
Sodium	mg/l	(see Health Effects)	N/A	Naturally occurring; Road salt; Water softeners; Animal waste.	Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.
Sulfate	mg/l	250	N/A	Naturally occurring.	High concentrations of sulfate in drinking water have three effects: (1) water containing appreciable amounts of sulfate tends to form hard scales in boilers and heat exchangers; (2) sulfates cause taste effects; and (3) sulfates can cause laxative effects with excessive intake. The laxative effect of sulfates is usually noted in transient users of a water supply because people who are accustomed to high sulfate levels in drinking water have no adverse response. Diarrhea can be induced at sulfate levels greater than 500 mg/l but typically near 750 mg/l.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Thallium	ug/l	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Zinc	mg/l	5	N/A	Naturally occurring; Mining waste.	Zinc has no health effects unless detected in very high concentrations. The presence of zinc may result in an undesirable taste in drinking water.
Color	Units	15	N/A	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant by-products such as trihalomethanes, the presence of metals such as copper, iron and manganese; Natural color may be caused by decaying leaves, plants, and soil organic matter.	Color has no health effects. In some instances, color may be objectionable to some people at as low as 5 units. Its presence is aesthetically objectionable and suggests that the water may need additional treatment.
Odor	Units	3	N/A	Organic or inorganic pollutants originating from municipal and industrial waste discharges; natural sources.	Odor as measured by this standard procedure has no health effects; although several contaminants exert odors when they are present at levels near their MCLs. Odor is an important quality factor affecting the drinkability of water.
Inorganics – Nitrate and Nitrite[18]					
Nitrate	mg/l	10[19]	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Nitrite	mg/l	1	1	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

[18] If the analytical results exceed the MCL, the water supplier shall collect another sample from the same sampling point, within 24 hours of the receipt of results or as soon as practical. An MCL violation occurs when the average of the two results exceeds the MCL.

[19] If nitrate is detected above 5 mg/l, but below 10 mg/l (the MCL), your Annual Water Quality Report must contain the following statement: "Nitrate in drinking water at levels above 10 mg/l is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from you health care provider."

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Synthetic Organic Contaminants including Pesticides and Herbicides					
Acrylamide		TT[20]	n/a	Added to water during sewage/wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.
Alachlor	ug/l	2	0	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.
Aldicarb	ug/l	3	1	Runoff from insecticide use on row crops.	Some people who drink water containing aldicarb in excess of the MCL over many years could experience neurological effects such as sweating, papillary constriction and leg weakness.
Aldicarb sulfone	ug/l	2	1	Runoff from insecticide use on row crops.	Some people who drink water containing aldicarb sulfone in excess of the MCL over many years could experience neurological effects such as sweating, papillary constriction and leg weakness.
Aldicarb sulfoxide	ug/l	4	1	Runoff from insecticide use on row crops.	Some people who drink water containing aldicarb sulfoxide in excess of the MCL over many years could experience neurological effects such as sweating, papillary constriction and leg weakness.
Atrazine	ug/l	3	3	Runoff from herbicide used on row crops.	Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.
Benzo(a)pyrene (PAH)	ng/l[21]	200	0	Leaching from lining of water storage tanks and distribution lines.	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.
Carbofuran	ug/l	40	40	Leaching of soil fumigant used on rice and alfalfa	Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.
Chlordane	ug/l	2	n/a	Residue of banned termiticide.	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.
Dalapon	ug/l	50[22]	n/a	Runoff from herbicide used on rights of way.	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes
2,4-D 2,4-Dichlorophenoxyacetic	ug/l	50[23]	n/a	Release to the environment by its application as a pesticide used to control broad leaf needs in agriculture and for control of woody plants along roadsides, railways, and utility rights-of-way.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
Di(2-ethylhexyl)adipate	ug/l	50[23]	n/a	Discharge from chemical factories.	Some people who drink water containing di(2-ethylhexyl)adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.

[20] Each public water system must certify annually in writing to the State that when Acrylamide and Epichlorohydrin are used in drinking water systems, the commination (or product) of dose and monomer level does not exceed the levels specified as follows: (1) Acrylamide = 0.05% dosed at 1 mg/l (or equivalent); and (2) Epichlorohydrin – 0.01% dosed at 20 mg/l (or equivalent).

[21] Nanograms per liter (ng/l) or parts per trillion (ppt).

[22] Unspecified Organic contaminant classification as defined in 10 NYCRR Part 5.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Di(2-ethylhexyl)phthalate Bis(2-ethylhexyl)phthalate) (DEHP)	ug/l	6	0	Used in plastic products such as polyvinyl chloride, plastic toys, vinyl upholstery, adhesives and coatings. Compound likely to be released to the environment during production and waste disposal of these products. Also used in inks, pesticides, cosmetics and vacuum pump oil.	Some people who drink water containing di(2-ethylhexyl)phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.
Dibromochloropropane (DBCP) (1,2-Dibromo-3-Chloropropane)	ng/l	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards.	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb (4,6-dinitro-2-sec-butylphenol)	ug/l	7	7	Runoff from herbicide used on soybeans and vegetables.	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties
Diquat	ug/l	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts
Dioxin (2,3,7,8-TCDD)	pg/l[23]	30	0	Emission from waste incineration and other combustion; Discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall	ug/l	50[23]	n/a	Runoff from herbicide use.	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin	ug/l	2	2	Residue of banned insecticide.	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin		TT[24]	n/a	Discharge from industrial chemical factories; An impurity of some water treatment chemicals.	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (EDB) (1,2-Dibromomethane)	ng/l	50	0	Discharge from petroleum containing banned additive; Soil fumigant.	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.
Glyphosate	ug/l	50[23]	700	Runoff from herbicide use.	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor	ng/l	400	0	Residue of banned pesticide.	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

[23] Picograms per liter (pg/l) or parts per quadrillion (ppq).

[24] Each public water system must certify annually in writing to the State that when Acrylamide and Epichlorohydrin are used in drinking water systems, the commination (or product) of dose and monomer level does not exceed the levels specified as follows: (1) Acrylamide = 0.05% dosed at 1 mg/l (or equivalent); and (2) Epichlorohydrin – 0.01% dosed at 20 mg/l (or equivalent).

Table 1 provides a list of contaminants which may be detected at your water system. This table lists each of the contaminants you are required to test for under Part 5, as well as additional contaminants that may be detected in your drinking water. It should be noted that you might not have tested for many of the contaminants listed on this table. Conversely, you may detect contaminants in your drinking water system that are not listed on this table. If you detect, a contaminant that is not listed in Table 1, please contact the State Health Department at (518) 402-7650 to obtain contaminant specific information.

Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Heptachlor epoxide	ng/l	200	0	Breakdown of heptachlor.	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene	ug/l	1	0	Discharge from metal refineries and agricultural chemical factories.	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidney, or adverse reproductive effects, and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene	ug/l	5[25]	n/a	Discharge from chemical factories.	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their stomach or kidneys.
Lindane	ng/l	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens.	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor	ug/l	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl (Vydate)	ug/l	50[23]	n/a	Runoff/leaching from insecticide used on apples, potatoes and tomatoes.	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.
Pentachlorophenol	ug/l	1	0	Discharge from wood preserving factories.	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer
Polychlorinated biphenyls (PCBs)	ng/l	500	0	Runoff from landfills; Discharge of waste chemicals.	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Picloram	ug/l	50[23]	n/a	Herbicide runoff.	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine	ug/l	4	4	Herbicide runoff.	Some people who drink water containing simazine in excess of the MCL over many years could experience tremors or have problems with their blood.
2,4,5-TP (Silvex)	ug/l	10	n/a	Residue of banned herbicide.	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Toxaphene	ug/l	3	0	Runoff/leaching from insecticide used on cotton and cattle.	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their thyroid, kidneys, or liver and may have an increased risk of getting cancer.
Volatile Organic Contaminants					
Benzene	ug/l	5[26]	0	Discharge from factories; Leaks from gas storage tanks and leaching from landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride	ug/l	5[26]	0	Discharge from chemical plants and other industrial activities.	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Chlorobenzene	ug/l	5[26]	n/a	Discharge from chemical and agricultural chemical factories.	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their kidneys or liver.

[25] Principal Organic Contaminant classification as defined in 10 NYCRR Part 5.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
o-Dichlorobenzene (1,2-Dichlorobenzene)	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory system.
p-Dichlorobenzene (1,4-Dichlorobenzene)	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing p-dichlorobenzene in excess over the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.
1,1-Dichloroethylene (1,1-Dichloroethene)	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene (cis-1,2-Dichloroethene)	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2-Dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Trans-1,2-Dichloroethylene (trans-1,2-Dichloroethene)	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-Dichloroethylene in excess of the MCL over many years could experience problems with their liver.
Dichloromethane	ug/l	5[26]	0	Discharge from pharmaceutical and chemical factories.	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.
1,2-Dichloropropane	ug/l	5[26]	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene	ug/l	5[26]	n/a	Discharge from petroleum refineries; Leaks from gasoline tanks.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Styrene	ug/l	5[26]	n/a	Discharge from rubber and plastic factories; Leaching from landfills.	Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.
Tetrachloroethylene (Tetrachloroethene) (Perchloroethylene) (Perchloroethene) (PCE)	ug/l	5[26]	n/a	Discharge from factories and dry cleaners; Waste sites; Spills.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene	ug/l	5[26]	n/a	Discharge from textile-finishing factories.	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane	ug/l	5[26]	n/a	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
1,1,2-Trichloroethane	ug/l	5[26]	n/a	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.
Trichloroethylene (Trichloroethene) (TCE)	ug/l	5[26]	0	Discharge from metal degreasing sites and other factories.	Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.
Toluene	ug/l	5[26]	n/a	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.	Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water	Health Effects Language
Vinyl Chloride	ug/l	2	0	Degradation of other chemicals leaching from waste sites, spills, etc.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
m-xylene	ug/l	5[26]	n/a	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
o-xylene	ug/l	5[26]	n/a	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
p-xylene	ug/l	5[26]	n/a	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Total Xylenes	ug/l	5[26]	n/a	Leaks from gasoline tanks; Discharge from petroleum factories. Leaching of solvent from lining of potable water tanks.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Disinfection Byproducts					
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	ug/l	60	n/a	By-product of drinking water disinfection needed to kill harmful organisms.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Total Trihalomethanes (TTHMs – chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	ug/l	80	n/a	By-product of drinking water chlorination needed to kill harmful organisms. TTHMs are formed when source water contains large amounts of organic matter.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water
Disinfection Byproducts (See proposed Table 17 of Part 5 (Information Collection Rule (IRC) Contaminant Reporting Requirements)[26]				
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	ug/l	60	n/a	By-product of drinking water chlorination.
Haloacetilenitriles (dichloro-, trichloro-, bromochloro-, and dibromoacetonitrile)	ug/l	50[23]	n/a	By-product of drinking water chlorination.
Haloketones (1,1-dichloropropanone and 1,1,1-trichloropropanine)	ug/l	50[23]	n/a	By-product of drinking water chlorination.
Chloropicrin	n/a	n/a	n/a	By-product of drinking water chlorination.
Chloral Hydrate	n/a	n/a	n/a	By-product of drinking water chlorination.
Total Organic Halides	n/a	n/a	n/a	By-product of drinking water chlorination.
Aldehydes	ug/l	50[23]	n/a	By-product of drinking water chlorination.
Cyanogen Chloride	n/a	n/a	n/a	By-product of drinking water disinfection at treatment plants using Chloramines.
Chlorate	mg/l	1	n/a	By-product of drinking water disinfection at treatment plants using Hypochlorite Solutions.
Bromate	ug/l	10	n/a	By-product of drinking water disinfection at treatment plants using Ozone.
Chlorite	mg/l	1	n/a	By-product of drinking water chlorination.
Chlorine Residual	mg/l	4[27]	n/a	By-product of drinking water chlorination.
Chloramines Residual	mg/l	4	n/a	By-product of drinking water chlorination.
Chlorine Dioxide Residual	ug/l	800	n/a	By-product of drinking water disinfection at treatment plants using Chlorine Dioxide.
Contaminants Listed in Table 16 of Part 5				
Diazinon	ug/l	50[23]	n/a	Released to the environment through its use and application as an insecticide with fruit, vineyards, and corn crops.
2,4-Dinitrotoluene	ug/l	50[23]	n/a	Dinitrotoluenes are used in organic synthesis, dyes, explosives and as a propellant additive. This compound may enter the environment in wastewater from the processes in which it was made and used.
2,6-Dinitrotoluene	ug/l	50[23]	n/a	This compound may enter the environment through its production and uses in the manufacture of dyes, explosives (TNT), urethane polymers and foams.
1,2-Diphenylhydrazine (n,n-Diphenylhydrazine)	ug/l	5[26]	n/a	Used in the manufacture of benzidine, anti-inflammatory drugs and used as an intermediate in the production of dyes, it may be released to the environment during production and use.
Disulfoton	ug/l	50[23]	n/a	A manufactured substance used as an insecticide on cereal, cotton, tobacco, and potato crops. Sources of release include losses during manufacturing, formulation, packaging, application and disposal of this pesticide.
Diuron	ug/l	50[23]	n/a	Released to the environment by its application as a herbicide for control of grasses in orchards and on wheat crops.
Echoviruses	n/a	n/a	n/a	Fecal sources.
Eplam (EPTC) (dipropylthiocarbamic acid S-ethyl ester)	ug/l	50[23]	n/a	Released to the environment by its application as a soil fumigant and selective herbicide for control of a variety of weeds on corn and potatoes.

[26] If a contaminant in this table is detected above the MCL please contact the State Health Department for Health Effects Language.

[27] Value presented represents the Maximum Residual Disinfectant Level (MRDL) which is a level of disinfectant added for water treatment that may not be exceeded at the consumer's tap without an unacceptable possibility of adverse health effects. MRDLs are currently not regulated but in the future they will be enforceable in the same manner as MCLs.

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Contaminant	Units	MCL	MCLG	Sources in Drinking Water
Fonofos (Dyphonate)	ug/l	50[23]	n/a	Released to the environment by its application as a soil insecticide used on worms and centipedes.
Helicobacter pylori	n/a	n/a	n/a	Fecal sources; hand to mouth transmission.
Lead – 210	n/a	n/a	n/a	Part of uranium decay series, naturally occurring.
Linuron	ug/l	50[23]	n/a	Released to the environment by its application as a herbicide used with corn, soybean, cotton, and wheat crops.
2-Methyl Phenol (o-Cresol) (2-Cresol)	ug/l	50[23]	n/a	Released in automobile and diesel exhaust, coal tar and petroleum refining, and wood pulping.
Methyl Tertiary Butyl Ether (MTBE)	ug/l	10	n/a	Releases from gasoline storage tanks. MTBE is an octane enhancer in unleaded gasoline. Atmospheric deposition.
Microsporidia	n/a	n/a	n/a	Occurs in rivers, lakes, ponds and unfiltered water.
Molinate	ug/l	50[23]	n/a	Released to the environment by its application as a selective herbicide used with rice to control watergrass.
Naphthalene	ug/l	50[23]	n/a	This compound enters the atmosphere primarily from fugitive emissions and exhaust connected with its presence in fuel oil and gasoline. In addition, there are discharges on land and into water from spills during the storage, transport, and disposal of fuel oil, coal tar, etc.
Nitrobenzene	ug/l	5[26]	n/a	Nitrobenzene is produced in large quantities and may be released to the environment in emissions and wastewater during its production and use. It is used in the production of aniline, which is used to make dyes, herbicides, and drugs.
Perchlorate	ug/l	18[28]	n/a	Oxygen additive in solid fuel propellant for rockets, missiles, and fireworks.
Polonium-210	n/a	n/a	n/a	Part of uranium decay series, naturally occurring.
Prometon	ug/l	50[23]	n/a	Released to the environment by its application as a herbicide used on annual and perennial weeds and grasses.
RDX (Cyclonite) (Cyclotrimethylenetrinitramine)	ug/l	50[23]	n/a	Used in explosives; ammunition plants.
Terbacil	ug/l	50[23]	n/a	Released to the environment by its application as a herbicide used with sugarcane, alfalfa, and some fruit.
Terbufos	ug/l	50[23]	n/a	Released to the environment by its application as an insecticide used with corn, sugar beet, and grain sorghum crops.
2,4,6-Trichlorophenol	ug/l	5[26]	n/a	Will enter the environment as emissions from the combustion of fossil fuels and incineration of municipal wastes, as well as emissions from its manufacture and use as a bactericide and wood/glue preservative.
Additional Contaminants Listed in Table 17 of Part 5 (Information Collection Rule (IRC) Contaminant Reporting Requirements)				
Total Culturable Viruses	n/a	n/a	n/a	Naturally occurring.
Other Principal Organic Contaminants				
Acrolein	ug/l	5[26]	n/a	Chemical and pesticide manufacturing; livestock feeds; exhaust from combustion processes; direct application to water and wastewater during use as an aquatic herbicide.
Acrylonitrile	ug/l	5[26]	0	Used to produce synthetic fibers and polymers and other chemicals and resins and is released as fugitive emissions and in wastewater during production use.
Aldrin	ug/l	5[26]	n/a	Pesticide used in agriculture for soil and seed treatment; used in treatment of wood and mothproofing of woolen products; byproduct of the pesticide Aldrin. In the United States, most uses were banned in 1987; however it is still found in our environment from past uses.
Allyl Chloride	ug/l	5[26]	n/a	Manufacturing of allyl compounds; used for thermosetting resins, varnishes, plastics, adhesives, synthesis of pharmaceuticals and insecticides; ally chloride may be released to the environment during its manufacture and use.
4-Aminobiphenyl	ug/l	5[26]	n/a	Used in organic research in the detection of sulfates and as a carcinogen in cancer research.
Aniline	ug/l	5[26]	n/a	Component of wood stains and varnishes; Rubber manufacturing.
Azobenzene	ug/l	5[26]	n/a	Fumigant or smoke in greenhouses for control of mites; intermediate in production of insecticides and in the manufacturing of dyes and rubber accelerators.
Benzidine	ug/l	5[26]	n/a	Benzidine has not been manufactured for sale in the U.S. since the mid-1970s. In the past, it was used to produce dyes for cloth, paper and leather. Benzidine has been found in waste sites and landfills.

[28] An MCL has not been established for this contaminant. The value presented represents a State Guidance level.

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Alpha-BHC (Alpha Lindane) (Alpha Benzene Hexachloride) (Alpha Hexachloroxcyclohexane)	ug/l	5[26]	n/a	Small amounts of Alpha-BHC may be released to the environment from the isomeriztion of the insecticide lindane upon exposure to sunlight. Release of Alpha-BHC most likely occurs from the use of technical hexachlorocyclohexane as a pesticide.
Beta-BHC (Beta Hexachloroxcyclohexane)	ug/l	5[26]	n/a	Formerly used in the United States as an insecticide.
Delta-BHC (Delta Lindane) (Delta Hexachloroxcyclohexane)	ug/l	5[26]	n/a	Formerly used in the United States as an insecticide.
Bis(2-chloroethoxy)methane	ug/l	5[26]	n/a	Synthetic organic compound chiefly used on site in the production of polysulfide polymers.
Bis(2-chloroethyl)ether	ug/l	5[26]	n/a	Chemical intermediate for the manufacture of pesticides and is most likely released into the environment from the use of products containing the compound.
Bis(2-chloro-1-methylethyl)	ug/l	5[26]	n/a	Used in laboratory and industrial organic synthesis; Used in textile treatments, pesticide manufacturing, cleaning solvents, paints and resins.
Bromobenzene	ug/l	5[26]	n/a	Used in organic synthesis; used in solvents; motor oil additive.
Bromochloromethane (Chlorobromomethane)	ug/l	5[26]	n/a	Bromochloromethane, which finds use in fire extinguishers, may be released to the environment as a fugitive emission during its manufacture and during the use of fire extinguishers that contain the compound.
Bromomethane (Methyl Bromide)	ug/l	5[26]	n/a	Used to kill a variety of pests; used to make other chemicals or as a solvent to get oil out of nuts, seeds, and wool.
Butoxypropanol (n-Butoxypropanol) (1,2-Propylene Glycol 1 Monobutyl Ether)	ug/l	5[26]	n/a	Used in metal degreasing solvents.
n-Butylbenzene (1-Butylpropane) (Butylbenzene)	ug/l	5[26]	n/a	Solvent used in organic synthesis.
Sec-Butylbenzene (2-Phenylbutane)	ug/l	5[26]	n/a	Solvent used in organic synthesis.
Tert-Butylbenzene (2-methyl-2-phenylpropane)	ug/l	5[26]	n/a	Solvent used in organic synthesis.
p-Chloroaniline (4-Chloroaniline)	ug/l	5[26]	n/a	May be released into the environment during its production or use in the manufacture of dye intermediates, agricultural chemicals or pharmaceuticals.
p-chloro-m-cresol (4-chlor-m-cresol)	ug/l	5[26]	n/a	Release may occur through inadvertent formation in waters (potable, wastewater or cooling water) which have undergone chlorination treatment and by evaporation or waste release from product formulation or end products such as germicides, glues, gums, paints, inks, textiles and leather goods, antiseptics or disinfectants.
Chloroethane (Ethyl Chloride)	ug/l	5[26]	n/a	Sources of chloroethane include process and fugitive emissions from its production and use as a chemical intermediate, evaporation from solvent, aerosol, and antiseptic application, stack emissions from plastics and refuse combustion, inadvertent formation during chlorination treatment, leaching from landfills and formation via microbial degradation of other chlorinated solvents.
Chloromethane (Methyl Chloride)	ug/l	5[26]	n/a	Used in organic chemistry; used as an extractant for greases, oils, and resins; as a solvent in the rubber industry; as a refrigerant, blowing agent and propellant in polystyrene foam production; as an anesthetic; as an intermediate in drug manufacturing; as a food additive, a fumigant and a fire extinguisher.

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Contaminant	Units	MCL	MCLG	Sources in Drinking Water
2-Chloronaphthalene	ug/l	5[26]	n/a	Used in production of electric condensers; in the insulation of electric cables and wires; coating in foundry use; solvent.
2-Chlorophenol (o-Chlorophenol)	ug/l	5[26]	n/a	Used as an intermediate in the manufacture of higher chlorophenols and phenolic resins and for extracting sulfur and nitrogen from coal.
Chloroprene (Chlorobutadiene)	ug/l	5[26]	n/a	Used in manufacture of neoprene and duprene and as a component of additives used in food packaging; may be released to the environment in emissions and effluent from sites of its manufacture and industrial use, from venting during storage and transport, and from disposal of spent solvents.
2-Chlorotoluene (o-Chlorotoluene)	ug/l	5[26]	n/a	Solvent and intermediate for dyes; may be released to the environment in emissions and effluent from sites of its manufacture and industrial use, from venting during storage and transport, and from disposal of spent solvents.
4-Chlorotoluene (p-Chlorotoluene)	ug/l	5[26]	n/a	Solvent and intermediate for organic chemicals and dyes; may be released to the environment in emissions and effluent from sites of its manufacture and industrial use, from venting during storage and transport, and from disposal of spent solvents.
5-Chloro-o-Toluidine	ug/l	5[26]	n/a	Used in dye manufacturing; may be released to the environment in emissions and effluent from sites of its manufacture and industrial use, from venting during storage and transport, and from disposal of spent solvents.
DDD (p,p'-DDD, 4,4'DDD)	ug/l	5[26]	n/a	Used as a non-degradable pesticide, but has been banned in the United States, however, may still be found in environment from historic use.
DDT (p,p'-DDT, 4,4'DDT)	ug/l	5[26]	n/a	Used as a non-degradable pesticide, but has been banned in the United States, however, may still be found in environment from historic use.
Dibromomethane (Methylene Bromide)	ug/l	5[26]	n/a	Dibromomethane finds limited use in chemical synthesis, as a solvent and as a gage fluid. It may be released to the environment during these used as well as in its production and transport. Also used as a solvent for fats, waxes and resins and an ingredient of fire extinguisher fluids.
1,3-Dichlorobenzene (m-dichlorobenzene)	ug/l	5[26]	n/a	Used as a fumigant and insecticide.
3,3-Dichlorobenzidine	ug/l	5[26]	n/a	Intermediate for dyes and pigments; curing agent for some urethane plastics.
Trans-1,4-Dichloro-2-Butene (trans-1,2-Dichloroethylene) (trans-1,2-Dichloroethene)	ug/l	5[26]	n/a	Solvent for fats, phenols, camphor; retards fermentation; rubber manufacturing; refrigerants; constituent of perfumes; additive to dye and lacquer solutions.
Dichlorodifluoromethane (Difluorodichloromethane) (Freon 12)	ug/l	5[26]	n/a	Refrigerant; aerosol propellant; foaming agent.
1,1-Dichloroethane	ug/l	5[26]	n/a	Released into the environment as fugitive emissions and in wastewater during production and use as a chemical intermediate solvent; used in vinyl chloride manufacturing; chlorinated solvent intermediate; coupling agent in anti-knock gasoline; degreasing agent.
Dichlorofluoromethane (Dichloromonofluoromethane)	ug/l	5[26]	n/a	Used as a refrigerant.
2,6-Dichlorophenol	ug/l	5[26]	n/a	May be released into the environment in effluents from the chlorination process involving water treatment and wood bleaching. Releases may also result from various incineration processes or from waste releases involving production of 2,4-Dichlorphenol.
1,3-Dichloropropane	ug/l	5[26]	n/a	There is no evidence of commercial production or sales of 1,3-dichloropropane in the United States in the isolated compounds or commercial mixtures. It is probably only used in small amounts possibly in laboratory synthesis.
2,2-Dichloropropane	ug/l	5[26]	n/a	If detected contact the NYS Department of Health, Bureau of Water Supply Protection for specific source information.
1,1-Dichloropropene	ug/l	5[26]	n/a	If detected contact the NYS Department of Health, Bureau of Water Supply Protection for specific source information.
Cis-1,3-Dichloropropene (cis-1,3-Dichloropropylene)	ug/l	5[26]	n/a	Released to the air and wastewater during its production and use as a soil fumigant and chemical intermediate.

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Trans-1,3-Dichloropropene (trans-1,3-Dichloropropylene)	ug/l	5[26]	n/a	Released to the air and wastewater during its production and use as a soil fumigant and chemical intermediate.
Dieldrin	ug/l	5[26]	n/a	Pesticide used in agriculture for soil and seed treatment; used in treatment of wood and mothproofing of woolen products; byproduct of the pesticide aldrin. In the United States, most uses were banned in 1987; however it is still found in our environment from past uses.
n,n-Dimethylaniline (n,n-Dimethylbenzemine)	ug/l	5[26]	n/a	Used in the manufacture of basic dyes.
3,3-Dimethylbenzidine (3,3-Tolidine)	ug/l	5[26]	n/a	Used in the manufacture of dyes, as a very sensitive reagent for gold, and for the production of some rigid plastics.
Alpha, alpha-Dimethylphenethylamine (1,1-Dimethyl-2-Phenylethylamine)	ug/l	5[26]	n/a	Used in pharmaceuticals.
1,3-Dinitrobenzene (m-Dinitrobenzene)	ug/l	5[26]	n/a	Synthetic substance used in explosives; Used at military ammunition plants and other chemical facilities.
Endrin Aldehyde	ug/l	5[26]	n/a	Not commonly used but occurs as an impurity to the insecticide endrin.
Hexachlorobutadiene	ug/l	5[26]	n/a	Used to make rubber compounds; used as a solvent, and to make lubricants; used as a heat transfer liquid and a hydraulic fluid.
Hexachloroethane (HCE) (Perchloroethane) (Carbon Hexachloride)	ug/l	5[26]	n/a	Formed as a byproduct in the production of some chemicals; used as pyrotechnic in smoke-producing devices; used to remove air bubbles in melted aluminum; may be formed when chlorine reacts with carbon compounds in drinking water; ingredient in some fungicides, insecticides, lubricants, and plastics.
Hexachlorophene	ug/l	5[26]	n/a	Release of hexachloropropene to the environment may occur as a result of its production and use in germicidal soaps and cosmetics.
Hexachloropropene	ug/l	5[26]	n/a	Used as a solvent, a plasticizer, and in hydraulic fluids.
Isodrin	ug/l	5[26]	n/a	Discontinued insecticide.
Isopropylbenzene (Cumene)	ug/l	5[26]	n/a	Thinner for paints and enamels; constituent of some petro-based solvents; component of high octane aviation fuel; used in the production of styrene, thinner, acetone and lacquer.
p-Isopropyl Toluene (p-Cynene) (1-Isopropyl-4-Methylbenzene)	ug/l	5[26]	n/a	Heat transferring agent.
Kepone (Chlorodecone)	ug/l	5[26]	n/a	Kepone has not been manufactured or used in the United States since 1978. Prior to 1978, it was used as an insecticide on tobacco, bananas, and citrus trees and is still found in environment from historic usage.
Methacrylonitrile	ug/l	5[26]	n/a	Used in production of plastics, coatings, and vinyl nitrile monomers.
Methylene Chloride (Dichloromethane)	ug/l	5[26]	n/a	Used as a solvent in paint strippers, as a propellant in aerosols, as a process solvent in the manufacturing of drugs, as a metal cleaning and finishing solvent.
Methyl Iodide	ug/l	5[26]	n/a	Used in microscopy because of its high refraction index; used as an imbedding material for examining diatoms; also in testing for pyridine.
Mirex	ug/l	5[26]	n/a	Mirex has not been manufactured or used in the U.S. since 1978. Prior usage includes: fire ant insecticide and flame retardant in plastics, rubber, paint, paper and electrical goods.
o-Nitroaniline (2-Nitroanaline)	ug/l	5[26]	n/a	May be released into the environment in waste effluent generated at sites of its commercial production or use as a chemical intermediate in the synthesis of dyes and pigments.

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m-Nitroaniline (3-Nitroaniline)	ug/l	5[26]	n/a	May be released into the environment in waste effluent generated at sites of its commercial production or use as a chemical intermediate in the synthesis of dyes and pigments.
p-Nitroaniline (4-Nitroaniline)	ug/l	5[26]	n/a	May be released to the environment during its production or use in the manufacture of dyes, agricultural chemicals and pharmaceuticals.
5-Nitro-o-Toluidine	ug/l	5[26]	n/a	Used for dying cotton, silk and nylon.
Pentachlorobenzene	ug/l	5[26]	n/a	Used as a chemical intermediate in the production of the fungicide quintozene. It is a technical impurity of this fungicide and will enter the environment as a result of its use.
Pentachloroethane	ug/l	5[26]	n/a	Currently not produced commercially or imported into the United States. However, this compound may be released into the environment as a combustion product of polyvinyl chloride (PVC).
Pentachloronitrobenzene (Quintozene)	ug/l	5[26]	n/a	Used as a fungicide for seed and soil treatment; used as a fungicide in industrial waters for slime prevention.
p-Phenylenediamine	ug/l	5[26]	n/a	Used as a dye intermediate, photographic developing agent, laboratory reagent, in hair and fur dyes; used in the manufacture of rubber antioxidants.
n-propylbenzene	ug/l	5[26]	n/a	Occurs naturally in petroleum and bituminous coal. It is also released into the atmosphere in emissions from combustible sources such as incineration, gasoline engines and diesel engines. Solvent evaporation, landfill leaching and general use of asphalt also releases this compound to the environment.
1,2,4,5-Tetrachlorobenzene	ug/l	5[26]	n/a	Intermediate in herbicides and defoliants; insecticide; chemical manufacturing.
1,1,1,2-Tetrachloroethane	ug/l	5[26]	n/a	It does not appear that this compound is presently produced in the United States or is used commercially. It may, however, be formed incidentally during the manufacture of other chlorinated ethanes and released into the environment as air or wastewater emissions.
1,1,2,2-Tetrachloroethane	ug/l	5[26]	n/a	Used in the past to product other chemicals and as a solvent, to clean and degrease metals, and in paints in pesticides. Commercial production for these uses has stopped in U.S. It presently is used only in chemical production.
2,3,4,6-Tetrachlorophenol	ug/l	5[26]	n/a	Enters environment primarily in wastewater during its production and use as a wood preservative. This use is no longer permitted. It also may be released from the use of pentachlorophenol since it is a major impurity and degradation product of that chemical.
o-Toludine	ug/l	5[26]	n/a	Textile printing dye; intermediate in dye, pharmaceutical, pesticides, chemicals and rubber production.
1,2,3-Trichlorobenzene	ug/l	5[26]	n/a	Release will occur through its manufacture and use as an industrial chemical, chemical intermediate, dielectric fluid, heat transfer medium and chemical solvent.
Trichlorofluoromethane (Freon 11) (Fluorotrichloromethane)	ug/l	5[26]	n/a	This compound was primarily released to the environment during its use as a propellant in aerosol sprays. However, this use was banned in the United States in 1978. Other sources of emissions include its use as a solvent, chemical intermediate, blowing agent for polyurethane foams, dry cleaning agent, aerosol propellant and in fire extinguishing agent.
2,4,5-Trichlorophenol	ug/l	5[26]	n/a	Synthesis of various herbicides; used in cooling towers, paper and pulp mill systems, hide and leather processing and disinfection; adhesives, rubber additives, textiles, food processing and wood preservative.
1,2,3-Trichloropropane (Trichlorohydrin) (Ally Trichloride)	ug/l	5[26]	n/a	Used in chemical manufacturing, as an industrial solvent, paint and varnish remover, and a cleaning/degreasing agent.
1,2,4-Trimethylbenzene	ug/l	5[26]	n/a	Naturally occurring in coal tar and crude oil; by-product of oil refinery process and added to gasoline.
1,3,5-Trimethylbenzene (Mesitylene)	ug/l	5[26]	n/a	Dye stuff intermediate; solvent and paint thinner chemical intermediate; UV oxidation stabilizer for plastic.
Sym-Trinitrobenzene (1,3,5-Trinitrobenzene)	ug/l	5[26]	n/a	Synthetic substance used in explosives; Used at military ammunition plants and other chemical facilities.

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Unspecified Organic Contaminants				
Acenaphthene	ug/l	50[23]	n/a	Emissions from petroleum refining coal tar distillation, coal combustion and diesel fueled engines are major contributors of this compound in the environment. Also used as a chemical intermediate and may be released via manufacturing effluent and waste disposal. Used in the manufacture of dye intermediates, pharmaceuticals, insecticides, fungicides, herbicides, and plastics.
Acenaphthylene	ug/l	50[23]	n/a	Component of crude oil, coal tar and product of combustion; emissions of petroleum refining and coal tar distillations are major sources; wastewater treatment plants and incinerators are also sources.
Acetone (2-Propanone)	ug/l	50[23]	n/a	Acetone occurs naturally and is used in production of paints, varnishes, plastics, adhesives, organic chemicals and alcohol Also used to clean and dry parts of precision equipment.
Acetonitrile	ug/l	50[23]	n/a	Released to the environment during its manufacture (solvent in manufacture of pesticides and pharmaceuticals) and use from shale oil recovery and coal gasification, incineration of polyacrylonitrile, from automobile exhaust and cigarette smoke.
Acetophenone	ug/l	50[23]	n/a	Used in perfume manufacturing; solvent for some plastics and resins; flavoring agent in some foods.
2-Acetylaminofluorene	ug/l	50[23]	n/a	Used in laboratory research.
Acrylic Acid	ug/l	50[23]	n/a	Used in the manufacture of plastic products, leather treatment and paper coating.
Alachlor OA	ug/l	50[23]	n/a	Herbicide.
Alkyl Dimethyl Benzyl Ammonium Chloride	ug/l	50[23]	n/a	Used in pesticide products.
Amiben (Chloramben)	ug/l	50[23]	n/a	May be released to the environment by ground spraying or granular applications to various crops during its use as a herbicide.
Anthracene	ug/l	50[23]	n/a	Release to the environment during is quite general since it is a ubiquitous product of incomplete combustion; used in dyestuffs, insecticides and wood preservatives.
Aramite	ug/l	50[23]	n/a	Used in interior water thinned coatings.
Azinphosmethyl	ug/l	50[23]	n/a	Used as an insecticide that may be released to the environment when applied to crops citrus, cotton, grapes, corm and vegetables).
Benefin (Benfluralin)	ug/l	50[23]	n/a	May be released to the environment during its manufacture and use as a herbicide.
Benzo(a)anthracene	ug/l	50[23]	n/a	Universal product of combustion of organic matter; found in oil, wax, smoke, food and drugs.
Benzo(b)fluoranthene	ug/l	50[233]	n/a	Release of this compound is most likely the result from incomplete combustion of a variety of fuels including wood and fossil fuel. Also a research chemical.
Benzo(k)fluoranthene	ug/l	50[23]	n/a	Release to the environment is quite general since it is a ubiquitous product of incomplete combustion; present in coal tar pitch.
Benzo(g,h,i)perylene	ug/l	50[23]	n/a	Component of crude oil and a product of combustion which may be produced and released to the environment during natural fires. Emissions from petroleum refining, coal tar distillation and combustion of wood, coal, oil, propane, gasoline, and diesel fuels are major contributors to the environment.
Benzyl Alcohol	ug/l	50[23]	n/a	May enter the environment through fugitive emissions during its production and during its formulation and use in commercial products. Used as a photographic developer in color movie film and in perfumes. Also used in flavor industries, pharmaceuticals, cosmetics, ointments, emulsions, sheet plastics and inks.
Bromacil	ug/l	50[23]	n/a	May be released to environment through use and application as a crop herbicide.
4-Bromophenyl phenyl ether	ug/l	50[23]	n/a	Research chemical used as flame retardant additives in polymers; presence in drinking water may be a result of the chlorination process.
Butachlor	ug/l	50[23]	n/a	May be released to the environment during application as a selective herbicide to control annual grasses

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Butoxyethoxyethanol (Diethylene Glycol Monobutyl Ether)	ug/l	50[23]	n/a	Used as a mosquito repellant; as a solvent for nitrocellulose oils, gums, dyes, soaps and polymers; a plasticizer intermediate.
Butoxypropanol (1,2-Propylene Glycol 1-Monobutyl Ether)	ug/l	50[23]	n/a	Used as a metal degreasing solvent.
Butyl Benzyl Phthalate (Benzyl Butyl Phthalate)	ug/l	50[23]	n/a	Used as a plasticizer for polyvinyl and some resins and as an organic intermediate. It is mostly used in flooring materials.
Captan	ug/l	50[23]	n/a	May be released to the environment during application as a fungicide on food crops and plant seeds.
Carbaryl	ug/l	50[23]	n/a	May be released to the environment during application as crop insecticide.
Carbon Disulfide	ug/l	50[23]	n/a	Natural product of anaerobic biodegradation and is released to the atmosphere from oceans and land masses. It may also be released as emissions and in wastewater during its production and use as in the production of viscose rayon, cellophane, carbon tetrachloride, and as a solvent.
Chlorobenzilate	ug/l	50[23]	n/a	Compound will enter the environment principally during spraying operations when it is applied as a miticide.
4-Chlorophenyl Phenyl Ether	ug/l	50[23]	n/a	Used for mite control on citrus crops and bee hives.
Chlorpyrifos	ug/l	50[23]	n/a	Pesticide widely used in homes to control cockroaches, termites and fleas. Used on farms to control ticks on cattle and crop pests. Also present in pet flea and tick collars.
Chrysene	ug/l	50[23]	n/a	Release to environment is quite widespread since it is an ubiquitous product of incomplete combustion. Used as an organic synthesis research chemical.
m-Cresol (3-Cresol)	ug/l	50[23]	n/a	Used in disinfectants, household cleaners, automotive chemicals, polishing preparations, and paint and varnish removers. It is released to the atmosphere in automobile and diesel exhaust, during coal tar refining and wood pulping, and during its use in manufacturing and metal refining.
p-Cresol (4-Cresol)	ug/l	50[23]	n/a	Used in disinfectants, in degreasing compounds, in paintbrush cleaners, in the manufacture of antiseptics, antioxidants, resins, perfumes, explosives, and photographic developers. It is released to the atmosphere in automobile and diesel exhaust, during coal tar refining and wood pulping, and during its use in manufacturing and metal refining.
Cyanazine (Bladex) (Fortrol) (Match) (Payze)	ug/l	50[23]	n/a	Released to the environment through its use and application as an agricultural herbicide on corn and cotton crops to control annual grasses.
Cyfluthrin	ug/l	50[23]	n/a	This compound is an active ingredient in many insecticide products. It is found in both restricted and general use insecticides. Its primary agricultural uses have been for control of chewing and sucking insects on crops such as cotton, turf, ornamentals, hops, cereal, corn, deciduous fruit, peanuts, potatoes and other vegetables.
Dacthal (DCPA) (Dimethyl Tetrachloroterephthalate)	ug/l	50[23]	n/a	Released to the environment through its use and application as an agricultural herbicide used on a wide range of vegetable crops.
Deethyl Atrazine	ug/l	50[23]	n/a	Degradation byproduct of the herbicide atrazine.
Deisopropylatrzine	ug/l	50[23]	n/a	Degradation byproduct of the herbicide atrazine.
Demeton	ug/l	50[23]	n/a	Formerly used as an insecticide.
Diallate	ug/l	50[23]	n/a	Released to the environment through its use and application as a herbicide.
Diazinon	ug/l	50[23]	n/a	Released to the environment through its use and application as an insecticide used to control pest insects in soil, on ornamental plants, and on fruit and vegetable crops. It is also used to control household pests.
Dibenz(a,h)anthracene	ug/l	50[23]	n/a	Release to environment is quite widespread since it is an ubiquitous product of incomplete combustion. Polyaromatic hydrocarbon found in coal tar pitch.
Dibenzofuran	ug/l	50[23]	n/a	Released to the environment in emissions involved with the combustion of coal, biomass, refuse and diesel fuel. Wastewater emissions can occur from coal tar, coal gasification and shale oil operations.

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2,2-Dibromo-3-Nitrilopropionamide	ug/l	50[23]	n/a	Released to the environment through its use and application as a pesticide.
Di-n-butylphthalate	ug/l	50[23]	n/a	Used as a plasticizer in the manufacture of flexible plastic, a lacquer solvent, and an insect repellant. This compound may be released to the environment as emissions and in wastewater during its production and use, in the incineration of plastics and migration of plasticizer from the materials containing it.
Dicamba	ug/l	50[23]	n/a	Release to the environment by its application as a herbicide used for the control of broad leaf weeds.
Diethyl Phthalate	ug/l	50[23]	n/a	Used as a solvent, as a vehicle for pesticide sprays, and in perfume manufacture. It may enter the environment in air emissions, aqueous effluent and solid waste products from manufacturing and processing plants.
o,o-Diethyl o-pyrazinyl phosphorothioate (Zinophos)	ug/l	50[23]	n/a	If produced, this compound may enter the environment as a fugitive emission during its manufacture, formulation and during its application as a pesticide.
Dimethoate	ug/l	50[23]	n/a	Release of this compound to the environment will result from its production and use as a contact systemic insecticide.
p-(dimethylamino)azobenzene (4-demethylaminoazobenzene)	ug/l	50[23]	n/a	Release to environment may occur as a result of its manufacture and use as a dye intermediate and as a coloring agent.
7,12-Dimethylbenz(a)anthracene	ug/l	50[23]	n/a	Used as a research chemical for testing antineoplastic drugs by inducing malignant tumors.
Dimethylformamide	ug/l	50[23]	n/a	Used as a solvent for pesticides and in other industries such as metal working, dyeing and construction.
2,4-Dimethylphenol	ug/l	50[23]	n/a	Release to the environment as fugitive emissions and in wastewater as a result of coal tar refining, coal processing and in its use in chemical/plastics manufacturing.
Dimethyl Phthalate	ug/l	50[23]	n/a	Released to the environment principally in industrial wastewater from its production and use as a plasticizer and mosquito repellant.
4,6-Dinitro-o-cresol	ug/l	50[23]	n/a	Insecticidal spraying is probably the major emission source of this compound to the environment where it is still being used. In addition, wastewater effluents from chemical plants have been found to contain this compound.
Di-n-octyl phthalate	ug/l	50[23]	n/a	Release to the environment principally from industrial wastewater from its production and use in plasticizers.
1,4-Dioxane	ug/l	50[23]	n/a	This compound may enter the environment through its use as a solvent and in textile processing, printing processes, and detergent preparations.
Diphenylamine	ug/l	50[23]	n/a	This compound may enter the environment through its use in making plastics, rubber, dyes, pharmaceuticals, and explosives.
Disulfoton Sulfone	ug/l	50[23]	n/a	This compound is a derivative of the insecticide disulfoton.
Dithane (Nabam)	ug/l	50[23]	n/a	Used in agricultural chemicals and non-agricultural disinfectants. Release to the environment may occur through the use and application of chemicals containing this compound.
Endosulfan	ug/l	50[23]	n/a	Insecticide used to control insects on grains, tea, fruits, vegetables, tobacco, and cotton. Also used as a wood preservative.
Endosulfan I (Alpha Endosulfan)	ug/l	50[23]	n/a	Insecticide used to control insects on grains, tea, fruits, vegetables, tobacco, and cotton. Also used as a wood preservative.
Endosulfan II (Beta Endosulfan)	ug/l	50[23]	n/a	Insecticide used to control insects on grains, tea, fruits, vegetables, tobacco, and cotton. Also used as a wood preservative.
Endosulfan Sulfate	ug/l	50[23]	n/a	Not commercially produced; byproduct of the insecticide endosulfan.
Ethylene Chlorohydrin (Chloroethanol)	ug/l	50[23]	n/a	Used as a solvent for certain resins and waxes. Also used in manufacture of insecticides and as a cleaning solvent.
Ethylene Glycol	ug/l	50[23]	n/a	Used as anti-freeze in heating and cooling systems, to de-ice aircraft wings, as an industrial solvent, and in paint and plastics.
Ethylene Oxide	ug/l	50[23]	n/a	Will enter the atmosphere in association with its production and use as a chemical intermediate as well as its relatively minor use as a sterilant and fumigant. From its industrial use, some of this compound will be discharged into water.
Ethylene Thiourea	ug/l	50[23]	n/a	Used in electroplating, insecticides, fungicides, dyes, pharmaceuticals, synthetic resins, and in making neoprene rubber.
Ethyl Methacrylate	ug/l	50[23]	n/a	Used to make chemicals, plastics and resins.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water
Ethyl Methanesulfonate	ug/l	50[23]	n/a	Considered for use as a possible human male contraceptive and a sterilant for some male insects and mammalian pests.
Famphur	ug/l	50[23]	n/a	Used as an insecticide for control of cattle grub and lice infestation.
Ferbam	ug/l	50[23]	n/a	Release to the environment as a fugitive emission during its manufacture and formulation or during its application as an insecticide for fruit crops.
Fluoranthene	ug/l	50[23]	n/a	Constituent of coal tar and petroleum derived asphalt used as lining material to protect interior of steel and ductile iron potable water pipes and storage tanks and research chemical. Its release to the environment is quite general since its is a universal product of the combustion of organic matter and is present in fossil fuel production.
Fluorine	ug/l	50[23]	n/a	Used in resinous products and dyestuffs. It also occurs in fossil fuels and its release to the environment is widespread since it is a ubiquitous product of incomplete combustion. It is released to the atmosphere in emissions from the combustion of oil, gas, coal, wood and refuse.
Folpet	ug/l	50[23]	n/a	Used as a pesticide and as a softener in rubber manufacturing.
2-Hexanone (Methyl n-Butyl Ketone)	ug/l	50[23]	n/a	The release of this compound in the environment is expected to occur through its manufacture, formulation and use as a specialized organic solvent.
Hydroquinone	ug/l	50[23]	n/a	The release of this compound in the environment is expected to occur through its manufacture, formulation and use in photographic developers, dye intermediates, paints, motor fuels, polymers, and medicines.
2-(2H-Benzotriazol-2-YL)-4,6-Ditertpentylphenol	ug/l	50[23]	n/a	The release of this compound in the environment is expected to occur through its manufacture, formulation and use as a stabilizer in plastics manufacturing.
Iodofenphos (N-Nuvanol) (Jodfenphos)	ug/l	50[23]	n/a	Used in insecticide products and may be released into the environment during the application of these insecticides.
Indeno(1,2,3-cd)pyrene	ug/l	50[23]	n/a	Formed in most combustion and elevated temperature processes that involve compound containing hydrogen and carbon. Know sources include coal, wood and gasoline combustion, municipal waste incinerators, coke ovens and cigarette smoke. It is also found in gasoline, motor oil and road runoff.
Isobutyl Alcohol (2-Methyl-1-Propanol)	ug/l	50[23]	n/a	This compound will enter the environment as emissions from its manufacturing and use as a solvent and in making other chemicals.
Isodecyl Diphenyl Phosphate	ug/l	50[23]	n/a	The release of this compound in the environment is expected to occur through its manufacture, formulation and use in re-enforced plastics as a flame retardant.
Isophorone	ug/l	50[23]	n/a	Used as a solvent for a large number of natural and synthetic polymers, resins, waxes, fats, oils and pesticides in addition to being used as a chemical intermediate. As a result, this compound may be released to the environment from a wide variety of industries, from the disposal of many different products and during the application of some pesticides.
Isosafrole	ug/l	50[23]	n/a	May be released to the environment during its manufacture and use as an intermediate in the production of heliotropin and in the production of perfumes, flavors and pesticide synergists.
Linuron	ug/l	50[23]	n/a	Herbicide used to control annual and perennial broadleaf and grassy weeds on both crop and non-crop sites.
Malathion	ug/l	50[23]	n/a	May be released to the environment during its application as a herbicide on soybeans, carrots, cotton, potatoes, and celery.
Maneb	ug/l	50[23]	n/a	Used as a pesticide and in pesticide products and may be released into the environment during the application of these pesticides.
MCPA (Methoxone)	ug/l	50[23]	n/a	Used as a pesticide and in pesticide products and may be released into the environment during the application of these pesticides.
Mercaptobenzothiazole	ug/l	50[23]	n/a	Used in rubber manufacturing; as a fungicide; as a corrosion inhibitor in cutting oils and petroleum products; also used in metal processing and applications and as an anticorrosion agent.
Methacrylic Acid	ug/l	50[23]	n/a	Used in the manufacture of methylacrylate resins and plastics.
Methapyrilene	ug/l	50[23]	n/a	Used as an antihistamine.
Methomyl	ug/l	50[23]	n/a	Used as a broad spectrum insecticide. It is also used as an acaricide to control ticks and spiders. It is used for foliar treatment of vegetable, fruit and field crops, cotton, commercial ornamentals, and in and around poultry houses and dairies.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water
Methoxyethylbenzene	ug/l	50[23]	n/a	Used in the fragrance/flavoring industry.
3-Methylchloroanthrane	ug/l	50[23]	n/a	Compound used in biomedical and cancer research.
Methylene Bisthiocyanate	ug/l	50[23]	n/a	Industrial antimicrobial agent used in slime control for paper manufacturing.
Methyl Ethyl Ketone (MEK)	ug/l	50[23]	n/a	Large quantities of this compound are used in the coatings industry. MEK will be discharged from this and other industrial uses.
Methyl Isobutyl Ketone (MIBK)	ug/l	50[23]	n/a	Released to the environment in effluent and emissions from its manufacturing and use facilities, in exhaust from gas from vehicles, and from land disposal and ocean dumping of consumer products. A large number of industries may release and dispose of this compound including: rare metal extractors and manufactures of coatings, pharmaceuticals, pesticides, rubber, processing chemicals and adhesives.
Methyl Methacrylate	ug/l	50[23]	n/a	This compound may enter the atmosphere or be released into wastewater or on land during its production, use in the manufacture of resins and plastics, transport or storage.
Methyl Methanesulfonate	ug/l	50[23]	n/a	Compound used experimentally as a mutagent; used as an insect attractant, repellant, and chemosterilant.
2-Methylnaphthalene	ug/l	50[23]	n/a	Used in organic synthesis and insecticides and may be released into the environment during production or insecticide application.
Methyl Parathion	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Metolachlor	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Metolachlor ESA	ug/l	50[23]	n/a	Degradation product of pesticides.
Metolachlor OA	ug/l	50[23]	n/a	Degradation product of pesticides.
Metribuzin	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
1,4-Naphthoquinone	ug/l	50[23]	n/a	This compound may be released into the environment through its use as a chemical intermediate in the production of dyes and pharmaceuticals and by its use as an algaecide and fungicide.
1-Naphthylamine (Alpha-Naphthylamine)	ug/l	50[23]	n/a	This compound may be released into the environment in waste streams and effluents from coal tar, coal gasification and shale oil facilities in effluents from its use in the synthesis of dyes and herbicides and by combustion of fuels containing a higher nitrogen content.
2-Naphthylamine (2-Aminonapthalene)	ug/l	50[233]	n/a	Manufacture and use of this chemical has been banned due to its carcinogenic nature. It is used only for research purposes. It was previously used in the manufacture of dyes and rubber.
Napropamide (Devrinol)	ug/l	50[23]	n/a	This compound may be released into the environment during its application as a systemic amide herbicide used to control a number of annual grasses and broad-leaved weeds.
Niacinamide (3-Carbamoylpyridine)	ug/l	50[23]	n/a	Used in hair tonics and scalp conditioners; pharmaceutical for veterinary use.
Nitralin	ug/l	50[23]	n/a	Previously used as a herbicide for soy bean crops.
Nitrilotriacetic Acid	ug/l	50[23]	n/a	Used to make other chemicals.
o-Nitrophenol (2-Nitrophenol)	ug/l	50[23]	n/a	This compound may be released to the environment in wastewater and as fugitive emissions during its production and use as a chemical intermediate.
p-Nitrophenol (4-Nitrophenol)	ug/l	50[23]	n/a	Released to the environment in wastewater and fugitive emissions during its production and use as a chemical intermediate.
n-Nitrosodi-n-Butylamine	ug/l	50[23]	n/a	Used as a research chemical.
n-Nitrosodiethylamine	ug/l	50[23]	n/a	Used as a research chemical, antioxidant, stabilizer, and a gasoline and lubricant additive.
n-Nitrosodimethylamine	ug/l	50[23]	n/a	May be released into the environment from some suggested applications in rocket fuels, as a n antioxidant solvent, and as a lubricant and softener for copolymers.
n-Nitrosodiphenylamine	ug/l	50[23]	n/a	Recent information on this compound indicates that it is no longer produced in the United States. In the past, this compound was used as a rubber accelerator and staining retarder for natural and synthetic rubbers.
n-Nitrosodipropylamine	ug/l	50[23]	n/a	Used for research purposes.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water
n-Nitrosomethylethylamine	ug/l	50[23]	n/a	Used as a research chemical.
n-Nitrosomorpholine	ug/l	50[23]	n/a	Used as a solvent for polyacrylonitrile and as a chemical intermediate. It is effective against microbial infections.
n-Nitrosopiperidine	ug/l	50[23]	n/a	Used in organic synthesis.
n-Nitrosopyrrolidine	ug/l	50[23]	n/a	Used as a research chemical.
Paraquat	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Parathion	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Pendimethalin (Prowl)	ug/l	50[23]	n/a	This compound may be released into the environment during the application as a selective herbicide. It is used to control most annual grasses and certain broadleaf weeds in field corn, potatoes, rice, cotton, soybeans, tobacco, peanuts, and sunflowers.
Cis-Permethrin	ug/l	50[23]	n/a	This compound may be released into the environment during its application as a pesticide.
Phenacetin	ug/l	50[23]	n/a	Used as an analgesic and an antipyretic.
Phenanthrene	ug/l	50[23]	n/a	Release of this compound most likely results from the incomplete combustion of a variety of organic compound including wood and fossil fuels. This compound is also used in dyestuffs, explosives, medical synthesis, and biomedical studies.
Phenol	ug/l	50[23]	n/a	Used in making plywood, pharmaceuticals, adhesives, plastics, and rubber.
Phenyl Ether	ug/l	50[23]	n/a	Used as a heat-transfer medium and in perfuming soaps.
Phorate	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
2-Picoline (2-Methylpyridine)	ug/l	50[23]	n/a	This compound is released to the environment in wastewater and as fugitive emissions during its production and use as a chemical intermediate and solvent. Energy-related processes such as coal and shale oil gasification is another important source of release.
Pronamide	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Propachlor	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Propanil	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Propazine	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Propionitrile (Ethyl Cyanide)	ug/l	50[23]	n/a	This compound may be released to the environment as fugitive emissions or in wastewater during its by-product information during the electro-reduction of acrylonitrile to form adiponitrile. It is also used as a solvent in petroleum refining, in dielectric fluids; as an intermediate and as a raw material for drug manufacturing.
Propylene Glycol	ug/l	1000	n/a	Used in antifreeze and deicing solvents; used to make polyester compounds; solvent in paint and plastics industry.
Pyrene	ug/l	50[23]	n/a	Pyrene's release to the environment is ubiquitous since it is a ubiquitous product of incomplete combustion. It is also used in biomedical research and as a chemical intermediate.
Pyridine	ug/l	50[23]	n/a	This compound is released to the environment in wastewater and as fugitive emissions during its production and use as a chemical intermediate and solvent. Energy-related processes such as coal and shale oil gasification is another important source of release.
Safrole	ug/l	50[23]	n/a	Used to make perfumery and soaps, certain medicines, and as a topical antiseptic.
Tebuthiuron	ug/l	50[23]	n/a	Used in pesticide products and may be released into the environment during the application of these pesticides.
Tetraethyl Dithiopyrophosphate (Sulfotepp)	ug/l	50[23]	n/a	A non-systemic insecticide with a wide range of action but of brief persistence on foliage; miticide.
Tetrahydrofuran	ug/l	50[23]	n/a	Used as a monomer, a solvent for natural and synthetic resins, and a chemical intermediate.
Theophylline	ug/l	50[23]	n/a	Used in various pharmaceuticals.
Thiram	ug/l	50[23]	n/a	Used in pesticide products and in the production of rubber chemicals.
Tolyltriazole	ug/l	50[23]	n/a	Inhibitor of corrosion of copper and copper alloys; in antioxidants; and photographic developers.
Triadimefon (Acizol) (Amiral)	ug/l	50[23]	n/a	This compound may be released into the environment during its application as a systemic fungicide. It is used to control powdery mildews, rusts and other fungal pests on cereals, fruits, vegetables, turf, shrubs, and trees.

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Table 1

Contaminant	Units	MCL	MCLG	Sources in Drinking Water
Tributyltin Oxide (Hexabutyl Distannoxane)	ug/l	50[23]	n/a	Fungicide and bactericide, especially in underwater and antifouling paints; also used in pesticide products.
Trifluralin	ug/l	50[23]	n/a	Trifluralin is an anthropogenic compound used as a pre-emergence herbicide. It may be released to the environment during its production and will be released during its application to agricultural fields.
Triphenylphosphate	ug/l	50[23]	n/a	Used in plastic manufacturing.
Vinclozolin (Ronilan) (Ornalin) (Vorlan)	ug/l	50[23]	n/a	This compound may be released to the environment during its application as a fungicide on several types of fungi in vines (such as grapes), strawberries, vegetables, fruit and ornamentals. It may also be used on turf grasses.
Vinyl Acetate	ug/l	50[23]	n/a	This compound is primarily released to the environment from industrial emissions. It is used in making polyvinyl resins.
Zineb	ug/l	50[23]	n/a	May be released to the environment during its application as an agricultural fungicide or insecticide.
Ziram	ug/l	50[23]	n/a	Used in rubber chemical production and pesticide products.

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Appendix A
Local Health Department Contact Information

COUNTY	ADDRESS	TELEPHONE
ALBANY	175 Green St., PO Box 678, Albany, 12201-0678	518/447-4620
ALLEGANY	County Office Bldg., 7 Court Street, Belmont 14813	585/268-9247
BROOME	225 Front Street, Binghamton 13905	607/778-2887
CATTARAUGUS	1 Leo Moss Drive, Suite 4010, Olean 14760-1154	716/373-8050 ext. 3437
CAYUGA	160 Genesee St., P.O. Box 219, Auburn 13021	315/253-1405
CHAUTAUQUA	Hall R. Clothier Bldg., 7 North Erie Street, Mayville 14757-1027	716/753-4481
CHEMUNG	103 Washington St., P.O. Box 588, Elmira 14902-0588	607/737-2019
CHENANGO	County Office Bldg., 5 Court Street, Norwich 13815	607/337-1673
CLINTON	133 Margaret St., Plattsburgh 12901	518/565-4870
COLUMBIA	71 North Third Street, Hudson 12534	518/828-3358
CORTLAND	60 Central Avenue, Cortland Co. Off. Bldg., Cortland 13045-2746	607/753-5035
DELAWARE	New York State Department of Health – Oneonta District Office 28 Hill Street, Suite 201, Oneonta 13820-9804	607/432-3911
DUTCHESS	387 Main St., Poughkeepsie 12601-3316	845/486-3404
ERIE	Rath Bldg., 95 Franklin St., Buffalo 14202	716/858-7677
ESSEX	New York State Department of Health – Saranac Lake District Office 41 St. Bernard Street, Saranac Lake 12983-1839	518/891-1800
FRANKLIN	New York State Department of Health – Saranac Lake District Office 41 St. Bernard Street, Saranac Lake 12983-1839	518/891-1800
FULTON	New York State Department of Health – Herkimer Falls District Office 5665 State Route 5, Herkimer 13350-9721	315/866-6879
GENESEE	3837 W. Main Street Road, Batavia 14020	585/344-8506 ext. 5462
GREENE	New York State Department of Health – Oneonta District Office 28 Hill Street, Suite 201, Oneonta 13820-9804	607/432-3911
HAMILTON	New York State Department of Health – Saranac Lake District Office 41 St. Bernard Street, Saranac Lake 12983-1839	518/891-1800
HERKIMER	New York State Department of Health – Herkimer Falls District Office 5665 State Route 5, Herkimer 13350-9721	315/866-6879
JEFFERSON	New York State Department of Health – Watertown District Office Dulles State Office Building 317 Washington Street, Watertown 13601-3741	315/785-2277
LEWIS	New York State Department of Health – Watertown District Office Dulles State Office Building 317 Washington Street, Watertown 13601-3741	315/785-2277
LIVINGSTON	2 Livingston Co. Campus, Mt. Morris 14510-1691	585/243-7280
MADISON	County Office Bldg., Wampsville 13163	315/366-2526

COUNTY	ADDRESS	TELEPHONE
MONROE	P.O. Box 92832, 111 Westfall Rd., Rochester 14692	585/274-6067
MONTGOMERY	New York State Department of Health – Herkimer Falls District Office 5665 State Route 5, Herkimer 13350-9721	315/866-6879
NASSAU	240 Old Country Road, Mineola 11501-4250	516/571-3691
NEW YORK	New York State Department of Health – Metropolitan Regional Office 5 Penn Plaza, Room 401 New York 10001	212/268-7055
NIAGARA	5467 Upper Mountain Road, Lockport 14094-1899	716/439-7453
ONEIDA	800 Park Avenue, Utica 13502	315/798-5064
ONONDAGA	421 Montgomery Street, Syracuse 13202	315/435-6623
ONTARIO	New York State Department of Health – Geneva District Office 624 Pre-Emption Road, Geneva 14456-1334	315/789-3030
ORANGE	124 Main Street, Goshen 10924-2199	845/291-2331
ORLEANS	14012 Route 31 West, Albion 14411	585/589-3278
OSWEGO	70 Bunner Street, PO Box 3080, Oswego 13126	315/349-3540
OTSEGO	New York State Department of Health – Oneonta District Office 28 Hill Street, Suite 201, Oneonta 13820-9804	607/432-3911
PUTNAM	1 Geneva Road, Brewster 10509	845/278-6130
RENSSELAER	Health Building, 1600 Seventh Ave., Troy 12180	518/270-2664
ROCKLAND	Sanatorium Road, Bldg. D, Pomona 10970-9990	845/364-2609
ST. LAWRENCE	New York State Department of Health – Canton District Office 58 Gouverneur Street, Canton 13617-3200	315/386-1040
SARATOGA	New York State Department of Health – Glens Falls District Office 77 Mohican Street, Glens Falls 12801-4429	518/793-3893
SCHENECTADY	107 Nott Terrace, Suite 306, Schenectady 12308-3170	518/386-2818
SCHOHARIE	Env. Health, 276 Main St., Schoharie 12157-0667	518/295-8382
SCHUYLER	New York State Department of Health – Hornell District Office 107 Broadway, Room 105, Hornell 14843-0430	607/324-8371
SENECA	31 Thurber Drive, Waterloo 13165	315/539-1925
STEUBEN	New York State Department of Health – Hornell District Office 107 Broadway, Room 105, Hornell 14843-0430	607/324-8371
SUFFOLK	220 Rabro Drive East, Hauppauge, NY 11788-4290	631/853-3082
SULLIVAN	New York State Department of Health – Monticello District Office 50 North Street, Suite 2, Monticello 12701-1711	845/794-2045
TIOGA	231 Main Street, Owego 13827-1697	607/687-8566
TOMPKINS	401 Harris B. Dates Drive, Ithaca 14850-1386	607/274-6688

COUNTY	ADDRESS	TELEPHONE
ULSTER	300 Flatbush Ave., Kingston 12401	845/340-3010
WARREN	New York State Department of Health – Glens Falls District Office 77 Mohican Street, Glens Falls 12801-4429	518/793-3893
WASHINGTON	New York State Department of Health – Glens Falls District Office 77 Mohican Street, Glens Falls 12801-4429	518/793-3893
WAYNE	New York State Department of Health – Geneva District Office 624 Pre-Emption Road, Geneva 14456-1334	315/789-3030
WESTCHESTER	145 Huguenot St., 8th Floor, New Rochelle 10801	914/813-5127
WYOMING	338 North Main Street, Warsaw 14569	585/786-8894
YATES	New York State Department of Health – Geneva District Office 624 Pre-Emption Road, Geneva 14456-1334	315/789-3030

Appendix B
Interpreting Monitoring Data

APPENDIX B
INTERPRETING MONITORING DATA

The information presented in this appendix provides examples of how to interpret your monitoring data for inclusion in the Table of Detected Contaminants (see Section 5.0, Item 4).

- **1 Sampling site/1 sampling date:**

  March 1999 – 0.003 ug/l

  What should be reported in Table of Detected Contaminants?

  Report the highest level detected 0.003 ug/l. You do not need to report a range.

- **Multiple Sampling sites/1 sampling date:**

Barium	February 1999
Well 1	0.60
Well 2	0.46
Well 3	ND

  What should be reported in Table of Detected Contaminants?

  Report the highest level detected 0.60 and the range ND – 0.60.

- **1 Sampling site/Multiple sampling dates:**

Atrazine	1st Quarter 1999	2nd Quarter 1999	3rd Quarter 1999	4th Quarter 1999
Well 1	0.80	3.8	2.1	0.9

  What should be reported in Table of Detected Contaminants?

  Report the average = 1.9 and the range 0.8-3.8.

- **Multiple sampling sites/Multiple sampling dates:**

Total Trihalomethanes	2nd Quarter 1998	3rd Quarter 1998	4th Quarter 1998	1st Quarter 1999	2nd Quarter 1999	3rd Quarter 1999	4th Quarter 1999
Site 1	-	-	-	45	60	125	70
Site 2	-	-	-	40	55	115	60
Site 3	-	-	-	45	60	105	70
Site 4	-	-	-	50	65	135	80
Quarterly Average	55	125	65	45	60	120	70
Rolling Annual Average	-	-	-	73	74	73	74

What should be reported in Table of Detected Contaminants?

Report the highest annual average = 74 and the range 40-135.

Notes: The last 3 quarters of 1998 are shown because you need them to compute the rolling annual average. The range would include only detection data from 1998, unless one of the values from the previous year was so extraordinary that consumers would need it to understand the reported annual average.

If your rolling annual average exceeds 80 (the revised MCL effective in 2001), your report must include the health effects language for TTHMs, even though your system was not technically in violation.

➢ Lead and Copper

For lead and copper results you report the 90th percentile value from the most recent sampling (if it was detected above the detection limit), the range of detections, and the number of sampling sites that exceeded the action level. The 90th percentile is equal to or greater than 90% of the values detected at your water system.

Lead	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Site 10
July 1999	ND	ND	8	12	19	3	ND	ND	4	22

In this case, you would list the samples in order of lowest level detected to highest level detected (see below).

Lead	Site 1	Site 2	Site 7	Site 8	Site 6	Site 9	Site 3	Site 4	Site 5	Site 10
July 1999	ND	ND	ND	ND	3	4	8	12	19	22

The 90th percentile value would be the 9th highest sample detected – 19.

What should be reported in Table of Detected Contaminants?

Report the 90th percentile value = 19, the range of detections – ND-22, and the number of sites above the action level of 15, in this case there were 2 results above the action level (See below).

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum) (Range)	Unit Measure-ment	MCLG	Regulatory Limit	Likely Source of Contamination
Lead	**Yes**	7/99	19[1] ND – 22	ug/l	0	AL- 15	Corrosion of household plumbing systems; Erosion of natural deposits

1 – The level presented represents the 90th percentile of the 10 sites tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead values detected at your water system. In this case, ten samples were collected at your water system and the 90th percentile value was the second highest value (19 ug/l). The action level for lead was exceeded at two of the sites tested.

The table reveals that the water level for lead exceeded the action level of 15 ug/l in more than 10 percent of the homes tested. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and you should flush your tap for 30 seconds to 2 minutes before using your tap water. Additional information regarding lead in drinking water is available from the Safe Drinking Water Hotline (1-800-426-4791).

If your system takes less than 10 lead or copper samples you would report the average of the two highest levels detected in your table.

Lead	**Site 1**	**Site 2**	**Site 3**	**Site 4**	**Site 5**
July 1999	ND	8	5	ND	14

Again, you would list the samples in order of lowest level detected to highest level detected (see below).

Lead	**Site 1**	**Site 4**	**Site 3**	**Site 2**	**Site 5**
July 1999	ND	ND	5	8	14

What should be reported in Table of Detected Contaminants?

Report the average of the two highest values = 11, the range of detections – ND-14, and the number of sites above the action level of 15, in this case there were no results above the action level (See below).

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Maximum) (Range)	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Lead	No	7/99	11[1] ND – 14	ug/l	0	AL- 15	Corrosion of household plumbing systems; Erosion of natural deposits

1 – During 1999 we collected and analyzed 5 samples for lead. The level included in the table represents the average of the two highest levels detected. The action level for lead was not exceeded at any of the sites tested.

Note: The following table will help you determine your 90th percentile value.

Number of Samples	How to determine 90th percentile
2-9	Take the average of the two highest levels detected.
10	Value of the 9th highest level detected.
20	Value of the 18th highest level detected.
30	Value of the 27th highest level detected.
40	Value of the 36th highest level detected.
50	Value of the 45th highest level detected.

If your system takes 20 or more samples and more than 5% (but less than 10%) of the samples are above the action level, you must include the educational statement presented below. If your system samples fewer than 20 sites and has even one sample above the AL, you will need to include the standard explanation for an AL exceedance, as well as the following educational statement:

> ***Lead.*** *Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).*

➢ Turbidity

Turbidity as an Indicator of Filtration Performance

When reporting turbidity as an indicator of filtration performance (see Table 4A of Part 5 for performance standards), systems must report the highest single measurement and the lowest monthly percentage of samples meeting the requirements specified for that technology. In this situation (conventional filtration serving less than 10,000 people), you may want to report the data in 2 rows of your table as follows:

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity[1]	No	11/5/99	1 NTU	NTU	N/A	TT= ≤ 5.0 NTU	Soil Runoff
Turbidity[1]	No	11/99	96% ≤ 0.5	NTU	N/A	TT=95% of samples ≤ 0.5 NTU	

Notes:
1 – Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement for the year occurred on 11/5/99 (1 NTU). State regulations require that turbidity must always be less than or equal to 5.0 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.5 NTU. Although November 1999 was the month when we had the fewest measurements meeting the treatment technique for turbidity, the levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

System that are Required to Install Filtration

Systems that are required to install filtration, but have not, must report the highest monthly average for turbidity. Additionally, systems falling into this category must also include the following statement:

"Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches."

Your average monthly turbidity values are usually included in your monthly operation reports. Calculating the average of the reported daily values for each month (i.e., January 1999 – December 1999), derives this number. In your Annual Water Quality Report you would report the highest monthly average calculated for the 12-month period.

Turbidity	**1/99**	**2/99**	**3/99**	**4/99**	**5/99**	**6/99**	**7/99**	**8/99**	**9/99**	**10/99**	**11/99**	**12/99**
Average Monthly Value	1.0	1.2	2.0	2.5	2.7	2.5	1.3	1.1	1.2	2.0	2.3	1.4

How should this information be reported?

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity[1]	No	5/99	2.7 NTU	NTU	N/A	TT= ≤5NTU	Soil Runoff
Notes: 1 –Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest average monthly turbidity measurement (2.7 NTU) occurred in May 1999 on 11/5/99. This value is below the turbidity standard (5 NTU) assigned to our system.							

The Village of Marcy is in violation of the Surface Water Treatment Rule and is required to install a water filtration plant or develop a new water source by June 2001. Therefore, we are required to include the following statement in this report: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches." The Village is in the process of actively seeking funding and has hired design engineers to comply with the Surface Water Treatment Rule.

Filtration Avoidance Systems

Systems that have met the State's criteria for **avoiding filtration** must report the highest single turbidity measurement found in any one month. The report should also include an explanation of the reasons for measuring turbidity. An example of this statement is as follows:

"Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants."

Your highest single turbidity values are usually included in your monthly operation reports. In your Annual Water Quality Report you would report the highest single turbidity measurement found during the 12-month reporting period.

Turbidity	**1/99**	**2/99**	**3/99**	**4/99**	**5/99**	**6/99**	**7/99**	**8/99**	**9/99**	**10/99**	**11/99**	**12/99**
Highest Monthly Value	0.45	0.7	0.8	1.5	6.0	2.0	1.5	1.0	0.90	0.4	0.78	0.6

How should this information be reported?

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Turbidity[1]	**Yes**	5/15/99	6 NTU	NTU	N/A	TT= ≤5NTU	Soil Runoff

Notes:
1 –Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. High turbidity can hinder the effectiveness of disinfectants. Our highest single turbidity measurement detected during the year (6 NTU) occurred on May 15, 1999. This value is above the State's treatment technique maximum turbidity performance standard (5 NTU).

The Village of Colden had a turbidity treatment technique violation in May 1999. On May 15, 1999, the turbidity level was measured at 6 NTU. This elevated turbidity measurement was attributed to heavy rains and flash flooding which occurred on May 14th and 15th. The turbidity level measurements returned to below 5 NTU on May 16th. Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. Please pay special attention to the additional statement in this document regarding Cryptosporidium.

➢ Total Coliform

Systems that Collect Fewer than 40 Total Coliform Samples per Month

Systems that collect **fewer than 40 total coliform samples per month**, must report the highest number of positive samples collected in any one month. If 2 or more samples are positive for total coliforms a MCL violation has occurred.

Systems are required to collect and analyze a specified number of routine samples. However, the number used to determine compliance and maximum contaminant levels is the total of all routine samples **plus** all repeat samples **plus** those directed by the local health department to be taken whenever the local health department believes that a potential exists for an MCL violation, or contamination may present a risk to public health.

For example, if a system is required to collect 24 routine samples per month and if 2 of the routine samples were positive for total coliforms, 4 repeat samples would have to be taken for each of the positive routine samples within 24 hours of being notified of the positive results. Even if the repeat samples are negative, you would report an MCL violation for your system because you had 2 positive Total Coliform samples during one month.

How should this information be reported?

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Total Coliform	**Yes**	5/15/99	2 positive samples	N/A	N/A	MCL=2 or more positive samples in 1 month	Naturally present in the environment

The table shows that we had an MCL violation for total coliform. On May 15, 1999, two of the 24 monthly samples collected indicated the presence of total coliform. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems. Eight additional samples were subsequently collected on May 17, 1999, total coliform was not detected in those samples; however, we did violate the MCL since two of our original monthly samples were positive for total coliform. It should be noted that E. Coli, associated with human and animal fecal waste, was not detected in any of the samples collected.

Systems that Collect 40 or more Total Coliform Samples per Month

Systems that collect **40** or more **total coliform samples per month**, must report the highest percentage of positive samples collected in any one month. If more than 5% of the samples are positive for total coliforms, them a MCL violation has occurred.

Systems are required to collect and analyze a specified number of routine samples. However, the number used to determine compliance and maximum contaminant levels is the total of all routine samples **plus** all repeat samples **plus** those directed by the local health department to be taken whenever the local health department believes that a potential exists for an MCL violation, or contamination may present a risk to public health.

For example, if a system is required to collect 50 routine samples per month and if 3 of the routine samples were positive for total coliforms, 4 repeat samples would have to be taken for each of the positive routine samples within 24 hours of being notified of the positive results. If all repeat samples results were negative the following calculations should be made:

50 Routine compliance samples
12 Repeat samples
62 Total Samples x 0.05 (maximum percent allowed to be positive per month) = 3.1

According to the calculation above, three routine compliance samples are allowed to be positive per month. Therefore, a MCL violation did not occur; however, since total coliforms were detected they must still be reported in the Annual Water Quality Report.

How should this information be reported?

Contaminant	Violation Yes/No	Date of Sample	Level Detected	Unit Measure-ment	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Total Coliform	No	5/99	3 positive samples	N/A	N/A	MCL=>5% of samples positive	Naturally present in the environment

In May 1999, total coliforms were detected in 3 of the 50 routine monthly compliance samples collected at our system. Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful bacteria may be present. Twelve additional samples were subsequently collected and total coliforms were not detected in those samples. Since total coliforms were detected in <5% of the samples collected during the month, the system did not have an MCL violation. It should be noted that E. Coli, associated with human and animal fecal waste, was not detected in any of the samples collected.

Appendix C
Certification Form

New York State Department of Health
Annual Water Quality Report Certification Form

Community Water System Name: _____

Community Water System Address: _____

PWS ID #: _____

The community water system named above hereby confirms that its Annual Water Quality Report has been distributed to customers (and appropriate notices of availability have been given). Further, the system certifies that the information contained in the report is correct and consistent with the compliance monitoring data previously submitted to the health department.

Certified by: Name: _____

Title: _____

Phone #: _____ Date:_____

Please indicate how your report was distributed to your customers:

_____ Annual Water Quality Report was distributed to bill-paying customers by mail.

_____ Annual Water Quality Report was distributed to bill-paying customers by direct delivery (please specify the direct delivery method used).

- ____ Hand delivered.
- ____ Published in local paper (i.e., *Penny Saver*) that was directly delivered or mailed to all bill-paying customers.
- ____ Published in local municipal newsletter that was directly delivered or mailed.
- ____ Other (please specify) _____.

_____ System does not have bill-paying customers.

For systems serving at least 100,000 persons, in addition to distributing your report using the methods described above, your Annual Water Quality Report must also be posted on the Internet.

_____ Annual Water Quality Report is posted on the Internet at www._____.

Please indicate what "Good Faith" efforts were used to reach non-bill paying consumers. Those efforts included the following methods as recommended by the New York State Department of Health.

- ____ Posting the Annual Water Quality Report on the Internet at www._____.
- ____ Mailing the Annual Water Quality Report to postal patrons within the service area.
- ____ Advertising the availability of the Annual Water Quality Report in the news media.
- ____ Publication of the Annual Water Quality Report in a local newspaper.
- ____ Posting the Annual Water Quality Report in public places (attach a list of locations).
- ____ Delivery of multiple copies to single-bill addresses serving several persons such as: apartments, businesses, and large private employers.
- ____ Delivery to community organizations.